V02880

486SX-25/486DX-33C (2)

01/93

486SX-25/486DX-33C (2)

01/93

Refer to Board Layout for the locations of each of the jumpers and connectors. Most of the jumpers are preset at the factory.

Connectors and Jumpers

A variety of connections can be made from the mainboard to a control panel on the front of your system.

A jumper is a kind of switch which uses a plastic cap with a metal interior to connect (short) two pins. If a jumper needs to be left open, you should save the cap for future use by covering only one pin of the jumper. This has no effect on the function of the board while it keeps the cap handy. The illustration below shows the side and top views of a three-pin jumper in which pins two and three are shorted.

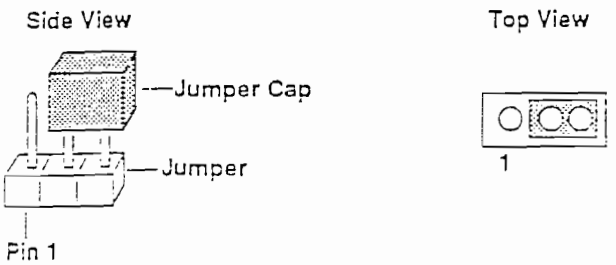


Figure 2-10: An Example of Three-pin Jumper Settings

With the mainboard oriented in the direction shown in the illustration above, the pins of each jumper are numbered from left to right in ascending order.

The following sections describe the functions or the settings of the connectors and jumpers on your mainboard.

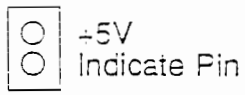
Reset Connector (Jumper J1)

This connector links the reset switch to your control panel. If you encounter any problems while using unfamiliar software, you can always restart from the beginning by pressing the reset button. Note, however that any data which have not been saved to disk will be lost.

Jumper J1	Function
1	Reset
1	Default

Turbo LED Connector (Jumper J2)

Jumper J2 is used to set up the Turbo LED. A Turbo LED indicates operation in Turbo mode.



Turbo Connector (Jumper J3)

This connector switches the system between Normal and Turbo speeds.

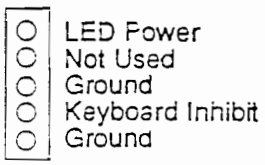
Jumper J3	Hardware Method
1	Normal Speed (AT compatible speed)
1	Turbo Speed

Note that Turbo and Normal modes can also be toggled with a software switch invoked from the keyboard as shown below:

Jumper J3	Software Method
	Speed Toggled by Pressing <Ctrl>, <Alt> and <-> keys

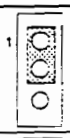
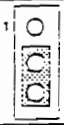
Keyboard Lock/Power LED (Jumper J5)

This connector links the keyswitch to your control panel and also supplies the signal for the power LED. The pin assignments are listed below:



Cache Memory Size Selection (Jumper J7, 10, 11)

This jumper selects the various cache size configurations.

Jumper J7,J10,J11	Cache RAM Type
	64KB cache memory with nine 25ns 8K x 8 bit SRAM chips (default)
	256KB cache memory with nine 25ns 32K x 8 bit SRAM chips

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The cache configurations are listed below:

64KB: 64KB cache (with eight 8K X 8 bit data SRAM chips, one 8K X 8 bit tag SRAM chip)

256KB: 256KB cache (with eight 32K X 8 bit data SRAM chips, one 32K X 8 bit tag SRAM chip)

Refer to the figure below for the location of data and tag SRAM.

Cache Size	Data SRAM	Tag SRAM
64KB	8K x 8bit x 8	8K x 8bit x 1
256KB	32K x 8bit x 8	32K x 8bit x 1

Cache Write-Hit Wait State Selection (Jumper J8)

Jumper J8 is used to select cache write-hit wait states. Refer to the following table.

Jumper J8	Function
	zero wait state cache write hit (default)
	one wait state cache write hit

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CPU Type Selection (Jumper J9, 16, 17)

The following table shows the jumper setting for CPU type selection.

CPU Select	Jumpers		
	J9	J16	J17
80486DX (default)			
80486SX			

External Cache Selection (Jumpers J12, 13, 14, 22, 50)

Jumpers J12, J13, J14, J22, J50 are used to select external cache status. Refer to the following table for the settings of these jumpers.

Jumpers					External Cache Selection
J12	J13	J14	J22	J50	
					enable (default)
					disable

CPU Speed Selection (Jumper J18, 19)

Jumpers J18, 19 is used to select CPU speeds. Refer to the following table.

CPU	J18	J19
33MHz (default)		
25MHz		
20MHz		
16MHz		

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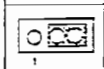
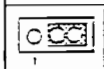
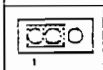
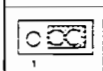
Single Phase and Double Phase Selection (Jumpers J21, J51)

Jumpers J21 and J51 are used to select single or double phase.

J21	J51	Function
		single phase selected
		double phase selected (default)

Serial Ports (J25, J28)

The mainboard has two serial ports (J25, J28), both of the two ports are 9-pin male connectors. The table below shows the settings for jumpers to select COM (COMmunications).

J41	J42	J43	Serial Printer 1	Serial Printer 2
			COM1	COM2
			COM1	Disable
			Disable	COM2
			COM2	COM1
			COM2	Disable
			Disable	COM1
			Disable	Disable
			Disable	Disable

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Jumpers J30, J31 are used to select the printer port interrupt. Refer to the table below:

Jumper	Interrupt
J30	IRQ3
J31	IRQ4

VGA and System BIOS Combination Selection (Jumper J29)

Jumper J29 is used for selection of combination of VGA and system BIOS. Refer to the table below.

Jumper J29	Function
	VGA and system BIOS combined (default)
	VGA and system BIOS uncombined

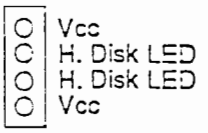
Video Selection (Jumper J33)

Jumper J33 is used to select a color or a monochrome display adapter. Refer to the figure below.

Jumper J33	Video Selection
	monochrome display adapter (default)
	color display adapter

HDD LED (Jumper J37)

Jumper J37 is used to connect an HDD LED. The pin assignments of the Jumper J37 are listed below.



Power Supply Connector (J38)

This connector is provided for the power supply. It is important that this connector be correctly connected; if not, the mainboard may be damaged. Information on connecting your power supply may be found in the Connection to Power Supply section.

Floppy Disk Drive (Jumper J46)

Floppy disk drive connector J35 is a 34-pin connector. Jumper J46 is used to enable a floppy disk drive.

Jumper J46	Floppy Disk Drive
	Enable
	Disable

Parallel Printer Port (Jumpers J39, J40)

The mainboard has a parallel printer port (J47). This port, a female DB-25 connector, is completely PC/AT compatible. The parallel printer port on your mainboard is addressable as LPT1 or LPT2.

The following table shows the settings for jumpers J39 and J40 to select LPT (line printer) or to disable the parallel printer port.

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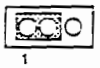
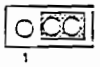
J39	J40	Parallel Printer Port
		LPT1
		LPT2
		LPT3
		Disable

Jumper J32 is used to select parallel port interrupt.

Jumper J32	Function
	IRQ5
	IRQ7

Note: The print-interrupt setting on the mainboard and that on the add-on card cannot be the same setting (IRQ5 or IRQ7). Otherwise, a conflict will occur. To ensure that the printers run harmoniously, you should set jumper J32 on the mainboard for an IRQ setting different from the print interrupt setting on the add-on card.

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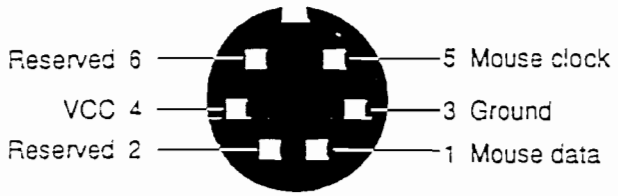
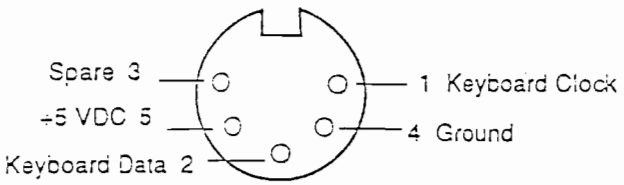
PS/2 Mouse Connector (J48)

Connector J48 is used to connect a PS/2 mouse. The PS/2 mouse is one of the most popular mice on the market. If you want to use a PS/2 mouse, no additional add-on card is necessary because the interface is already built in the system. The pin assignments for PS/2 mouse connector are shown as below.



Keyboard Connector (J49)

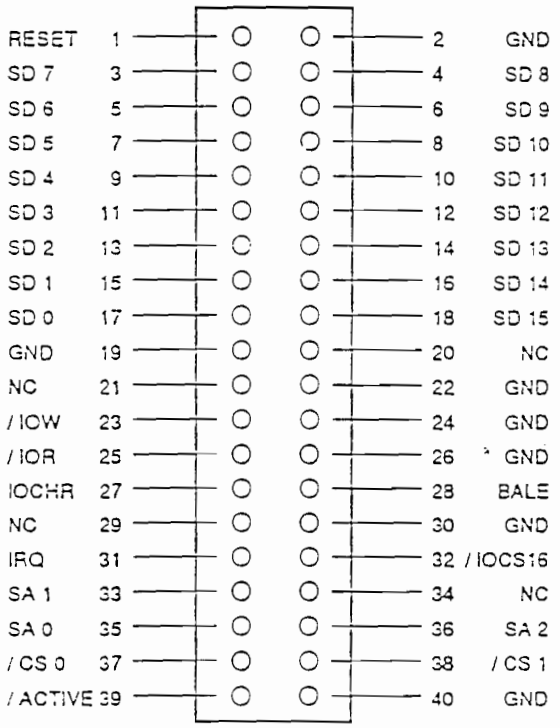
This connector may be located at the back of your system unit. Any AT-compatible keyboard with a 5-pin DIN connector may be used. The pin assignments for keyboard connector J49 are as follows:



IDE Hard Disk Drive (Jumpers J52, J53)

The hard disk drive connector (J36) is a 40-pin connector; J37 is an HDD LED. Jumpers J52, J53 are used to enable an IDE hard disk drive. Refer to the figures for the pinouts and jumper settings.

J52	J53	IDE Hard Disk
		Disable
		Enable



2-5 Factory Default Settings

The following table shows the factory default settings.

Hardware

Features

This VGA adapter brings the functions and features of the latest video standards to your IBM compatible computer system using a 16-bit interface for maximum performance. These features include:

- All the capabilities of IBM's PS/2 VGA display adapter including full VGA compatibility at the hardware level.
- Support for a 16-bit bus for high speed display memory and I/O access.
- 1024 by 768 resolution graphics modes providing 2, 4, and 256 colors interlaced and non-interlaced support on compatible multi-frequency and 8514 type monitors.
- 800 by 600 resolution providing 16 or 256 colors in graphics mode on multi-frequency monitors.
- 800 by 600 resolution modes in 56, 60 or 72Hz vertical scan monitor refresh rates (on supporting monitors).
- Complete downward compatibility with MCGA, CGA, MDA and Hercules display adapters.
- 132 column text modes.
- Color palette of over 262,000 possible colors in 256 color modes.
- Software drivers for extended VGA display modes.

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Onboard VGA Feature Connector (J23)

This edge connector and associated circuitry is equivalent to the connector provided by IBM on their PS/2 Display Adapter. It allows fully compatible VGA pass-through to an optional 8514/A graphics adapter, or other video adapter should you choose to upgrade your system.

Onboard VGA Connector (J24)

The 15-pin female connector where all monitors are connected.

Onbord VGA Wait State Selection (Jumper J27)

The VGA adapter has been designed with a wait state jumper which will not permit the board to generate wait states, thus improving performance. The default position is zero wait states. Some systems; however, will not work with zero wait states (symptoms include on-screen data loss). In that situation, remove the jumper at location J27.

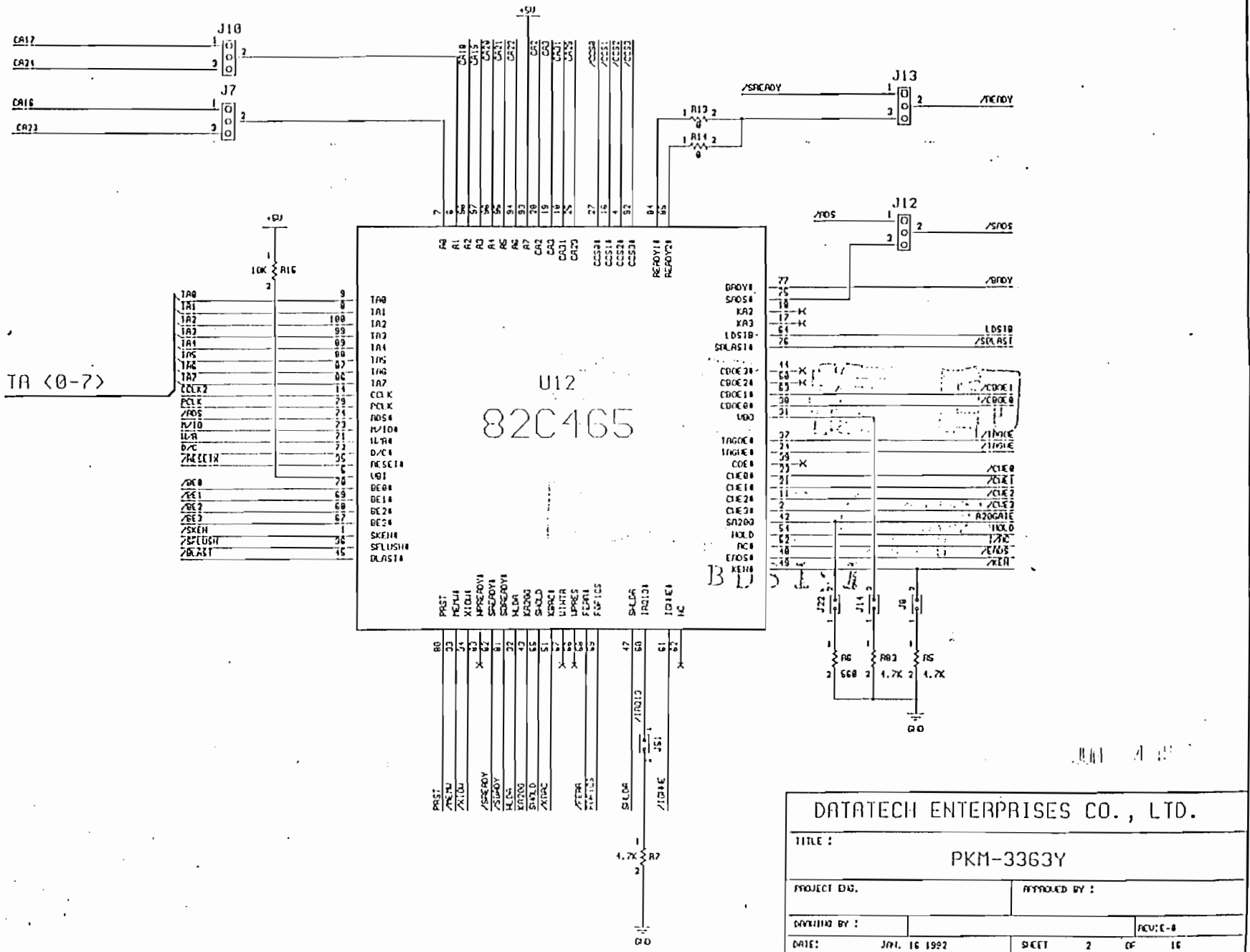
Jumper J27	VGA Adapter Generates
	0 wait states (default)
	wait states

VGA Configuration DIP Switch (SW1)

The VGA adapter is fitted with a six-lever DIP switch which specifies configuration information.

VGA DIP Switch Settings — SW1(1-2), SW1(3-4), SW1--5

A-14/15


J10
J7
J13
J12
U12
82C465
TA <0-7>
+5V
GND
/SREADY
/MEMRDY
/MDS
/SMDS
/MRDY
LDS1B
/SDLAST
/CDOE1
/CDOE0
/IWAIT
/IWAIE
/CIE0
/CIRT
/CIE2
/CIE3
A20GATE
HOLD
/IRC
/EMDS
/KEA
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
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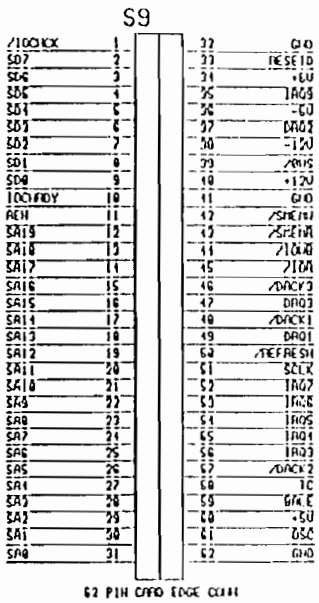
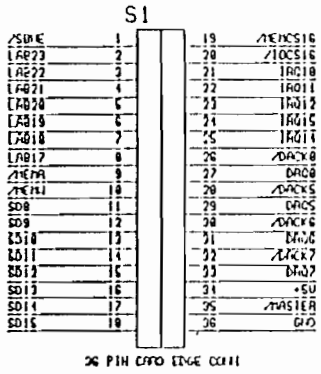
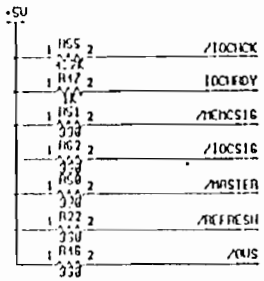
R43
R44
R45
R46
R47
R48
R49

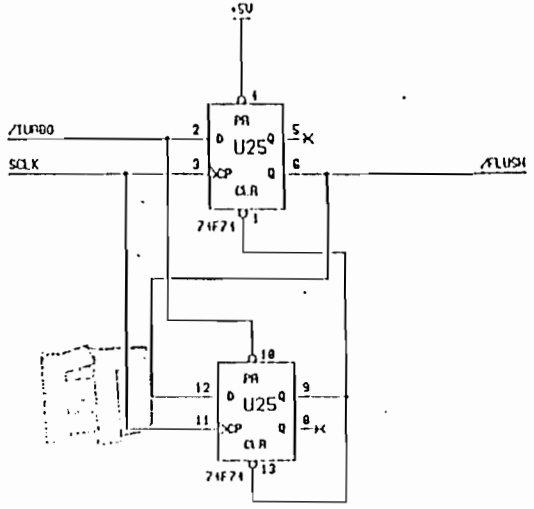


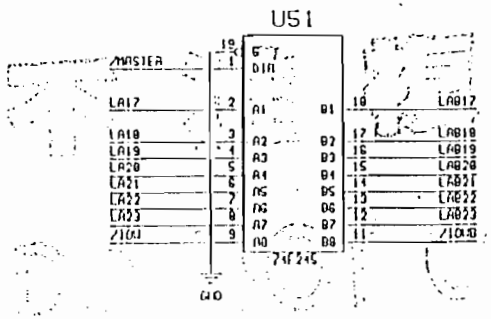
62 PIN CARD EDGE CONN



36 PIN CARD EDGE CONN

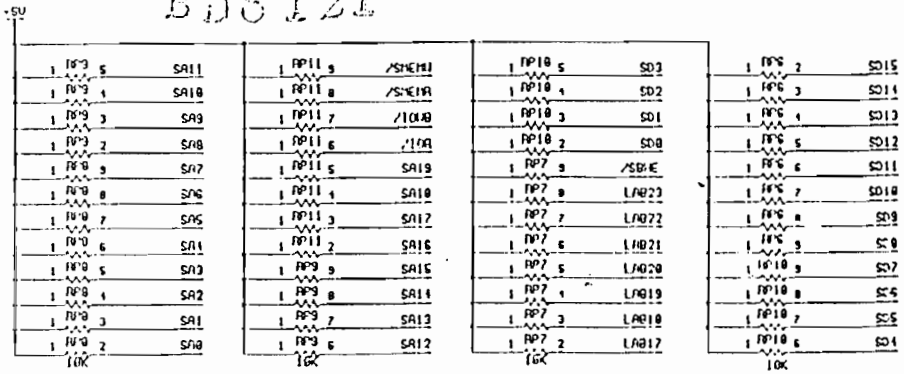




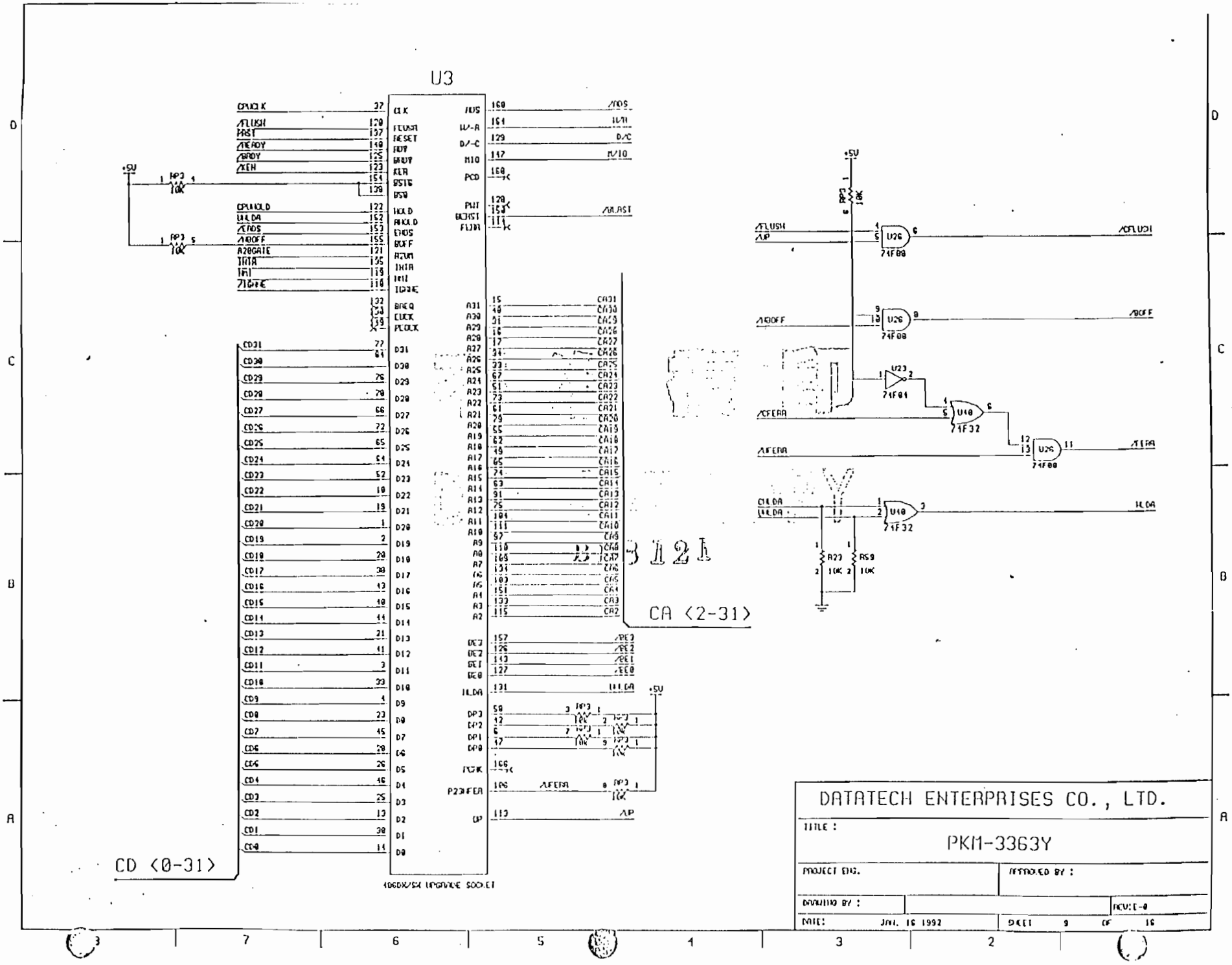


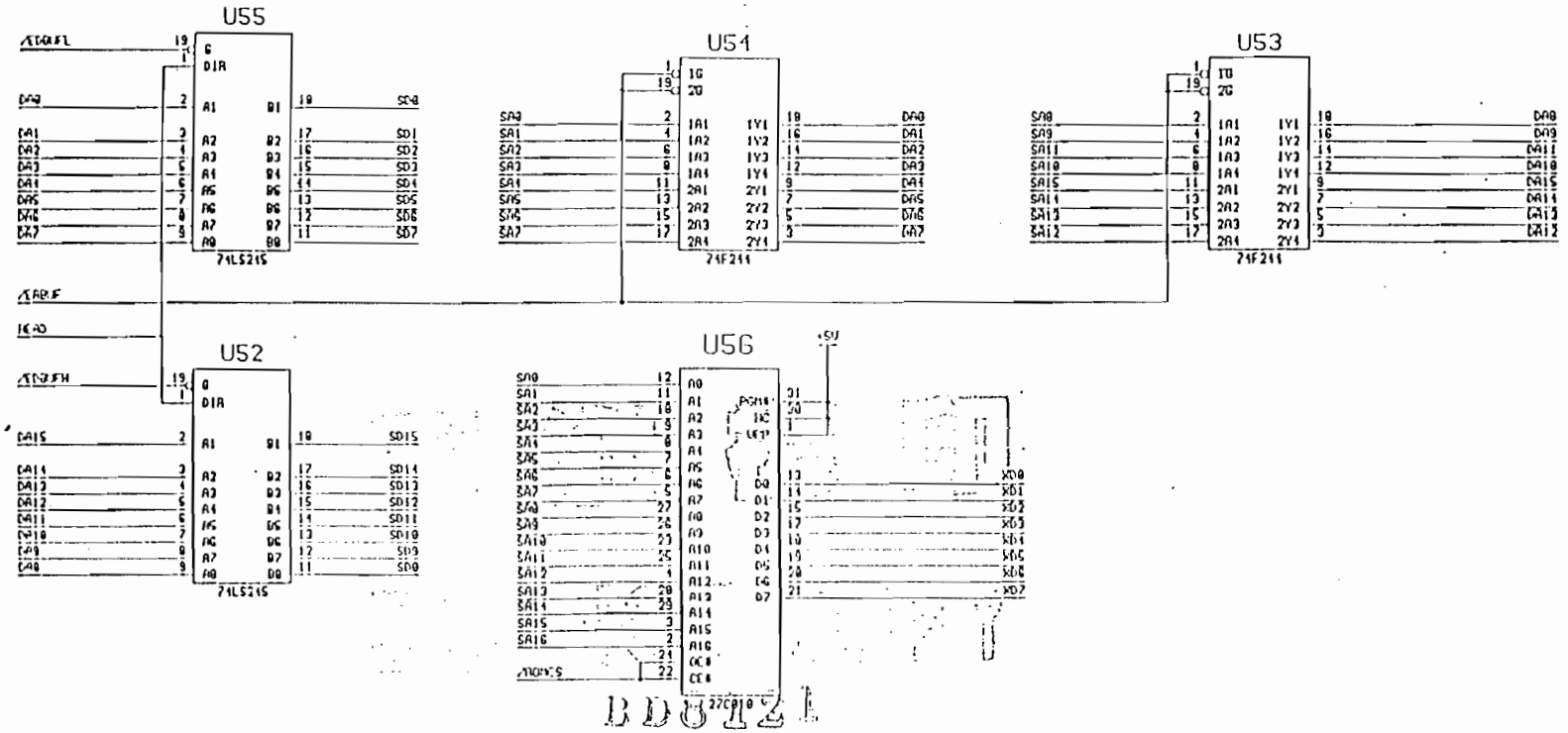
COPY

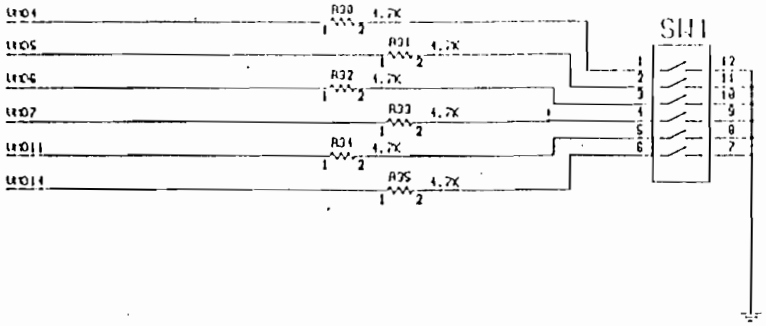
BD8121



DATATECH ENTERPRISES CO., LTD.	
TITLE : PKM-3363Y	
PROJECT NO.	APPROVED BY :
DRAWING BY :	REV:E-1
DATE: JAN. 16 1992	SHEET 8 OF 16


U3
CD <0-31>
CA <2-31>
486DX/SX UPGRADE SOCKET
DATATECH ENTERPRISES CO., LTD.
TITLE :
PKM-3363Y
PROJECT ENG.
APPROVED BY :
DRAWING BY :
REVISION
DATE: JAN. 16 1992
SHEET 9 OF 16





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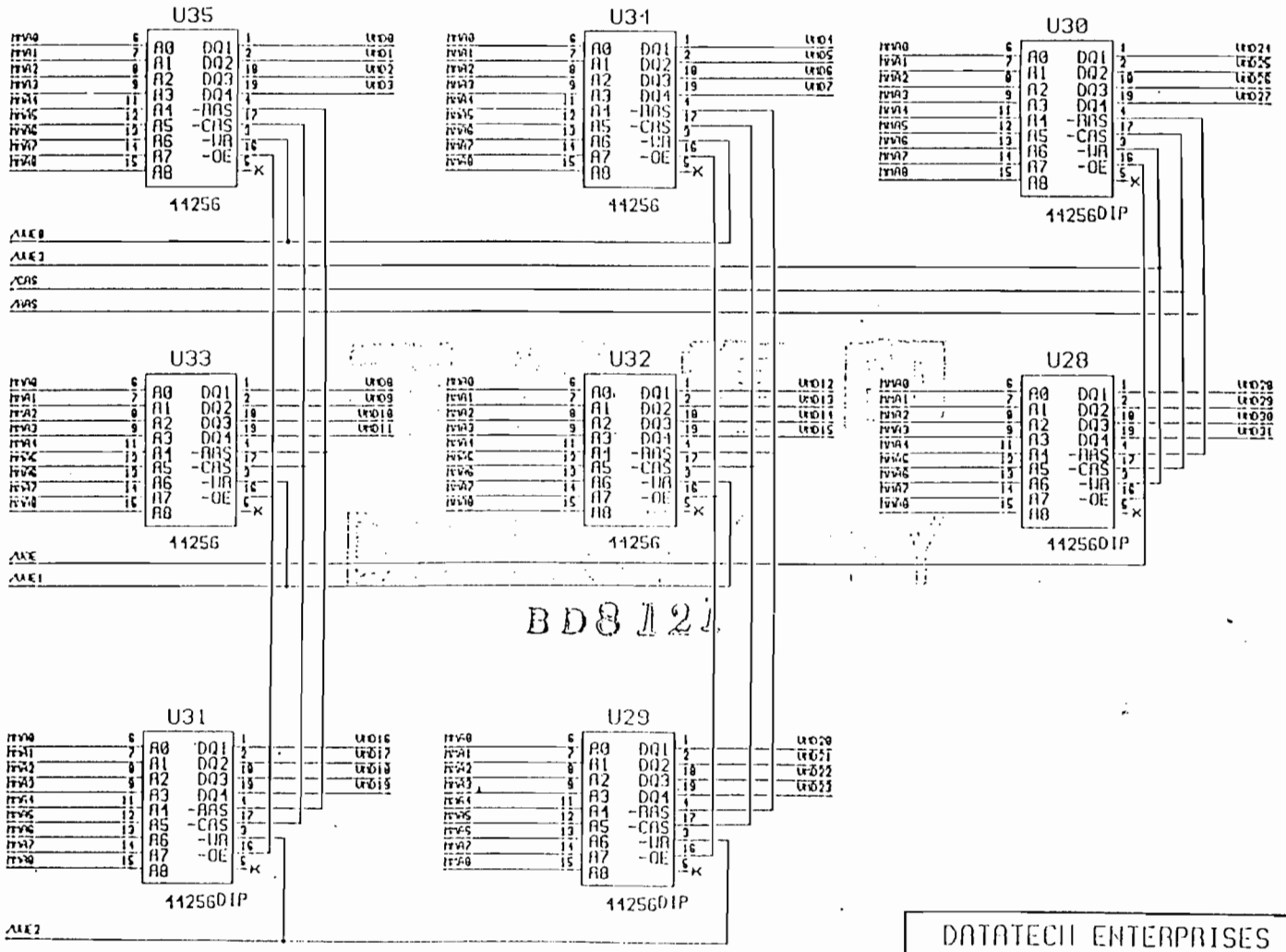
DRAWING BY :			REVISE-0
DATE: JAN. 16 1992		SHEET 10 OF 16	



BD8121

DATATECH ENTERPRISES CO., LTD.			
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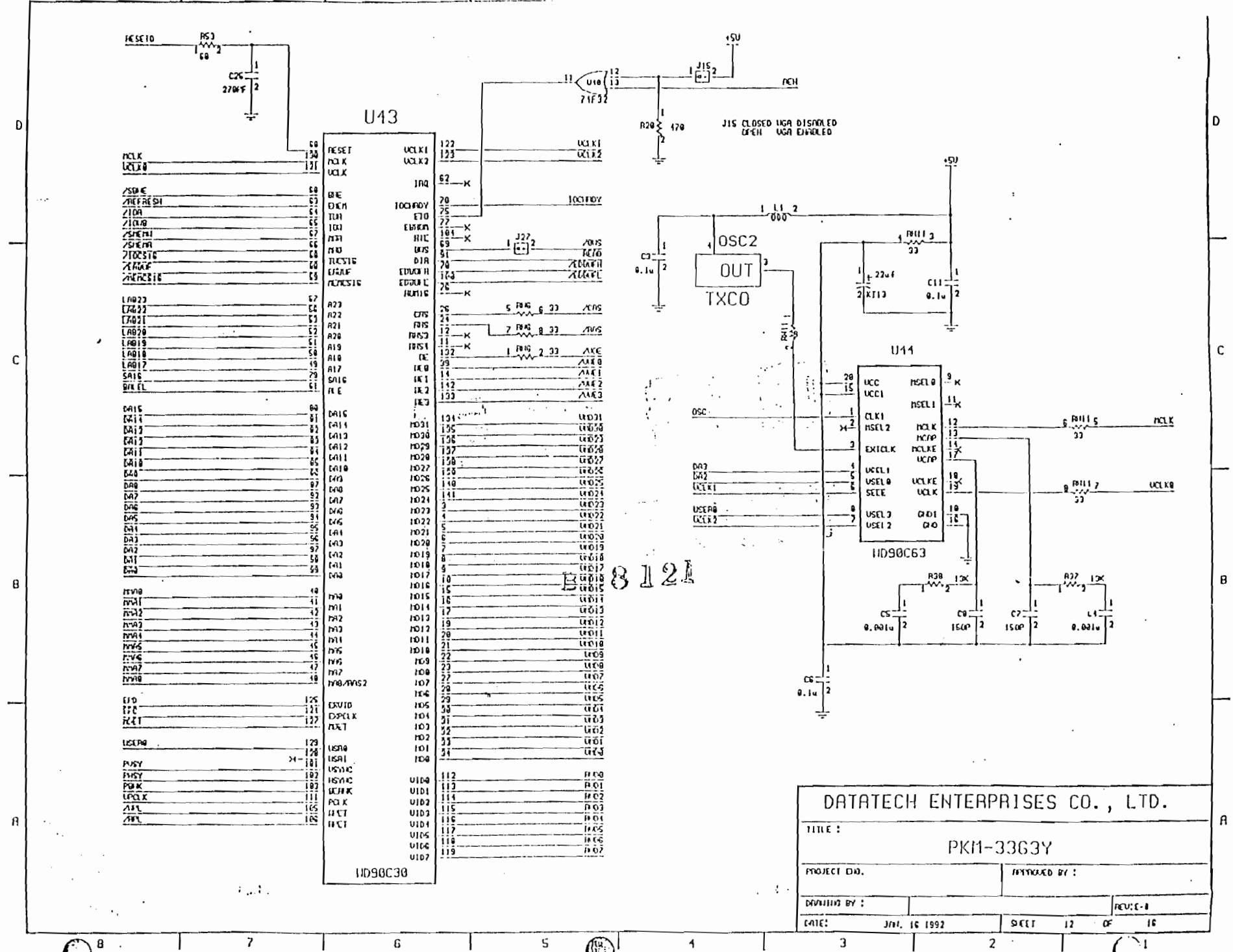
DRAWING BY :			REVISE-0
DATE: JAN. 16 1992		SHEET 11 OF 16	


U43
UD98C30
U44
UD98C63
OSC2
OUT
TXCO
J15 CLOSED VGA DISABLED
OPEN VGA ENABLED
+5V
RESET
MCLK
VCLK0
VCLK1
VCLK2
IRQ
IOCHRDY
/RAS
/CAS
/WE
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8/MA9
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
MD8
MD9
MD10
MD11
MD12
MD13
MD14
MD15
MD16
MD17
MD18
MD19
MD20
MD21
MD22
MD23
MD24
MD25
MD26
MD27
MD28
MD29
MD30
MD31
OSC
DA3
DA2
VCLK1
USEA0
VCLK2
HCLK
VCLK0
E8121
DATATECH ENTERPRISES CO., LTD.
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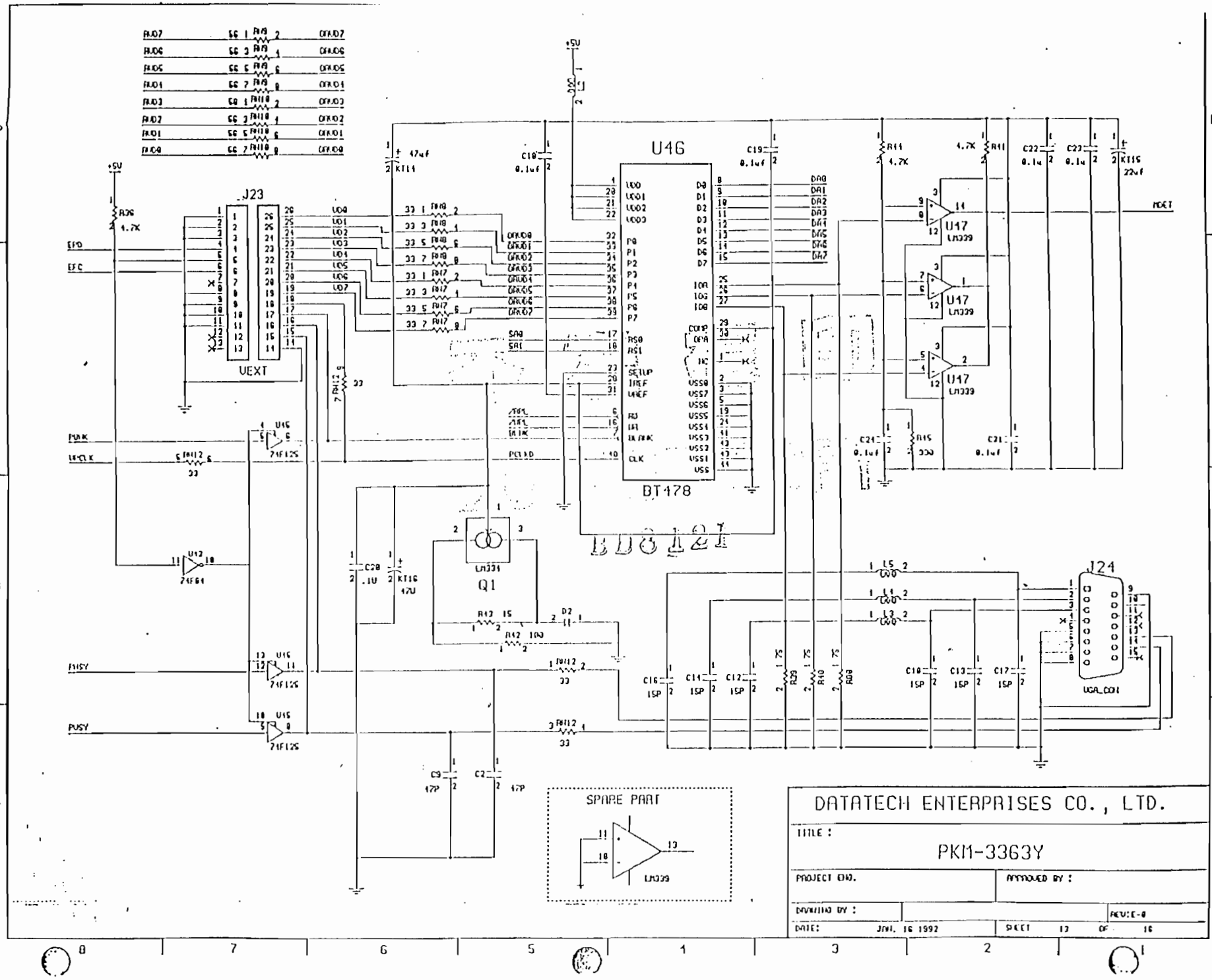
PKM-3363Y
PROJECT NO.
APPROVED BY :
DRAWING BY :
REVISE-0
DATE: JAN. 16 1992
SHEET 12 OF 16


U46
BT478
J23
UEXT
J24
VGA_CON
Q1
LM331
U17
LM339
74F125
74F04
SPARE PART
DATATECH ENTERPRISES CO., LTD.
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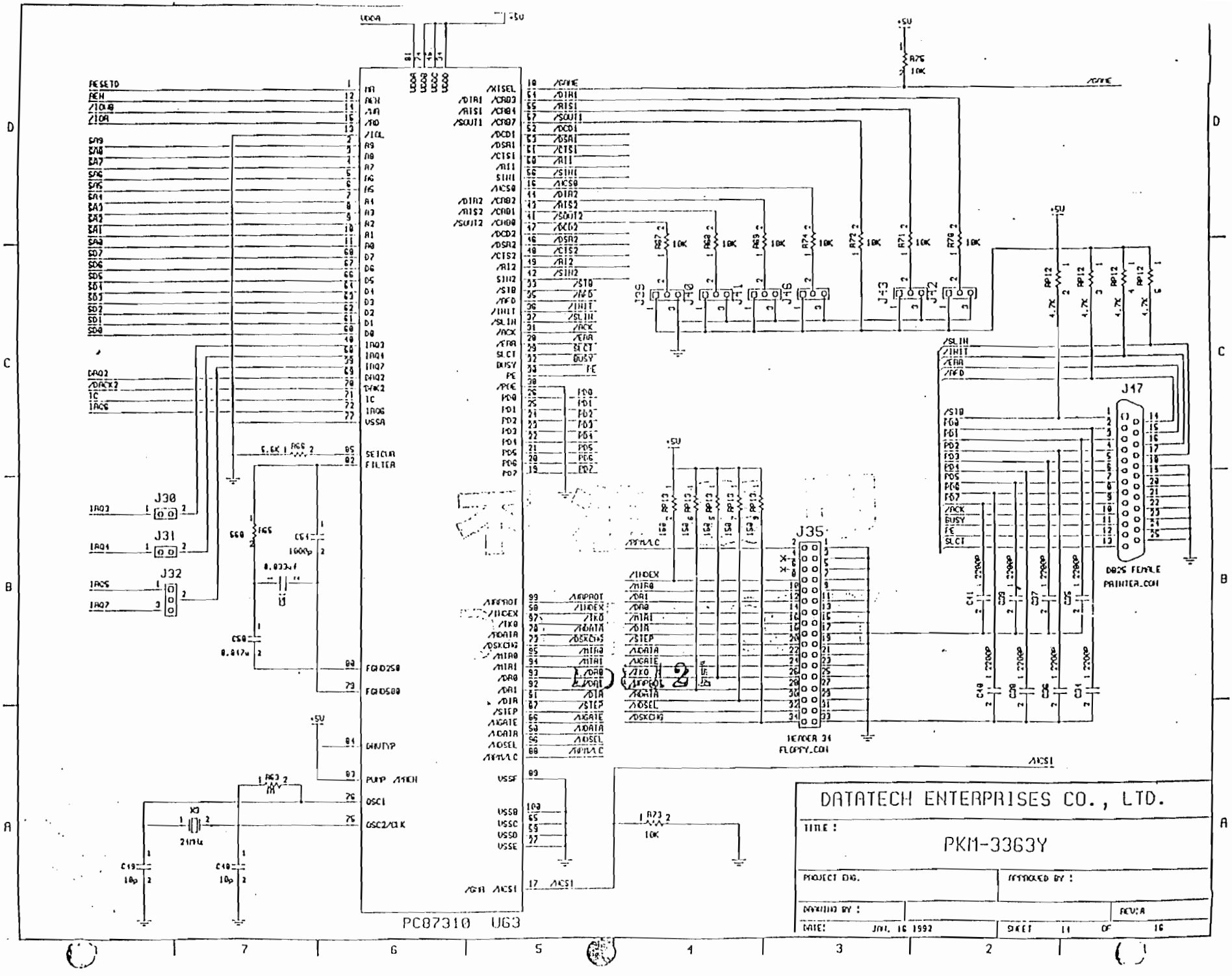
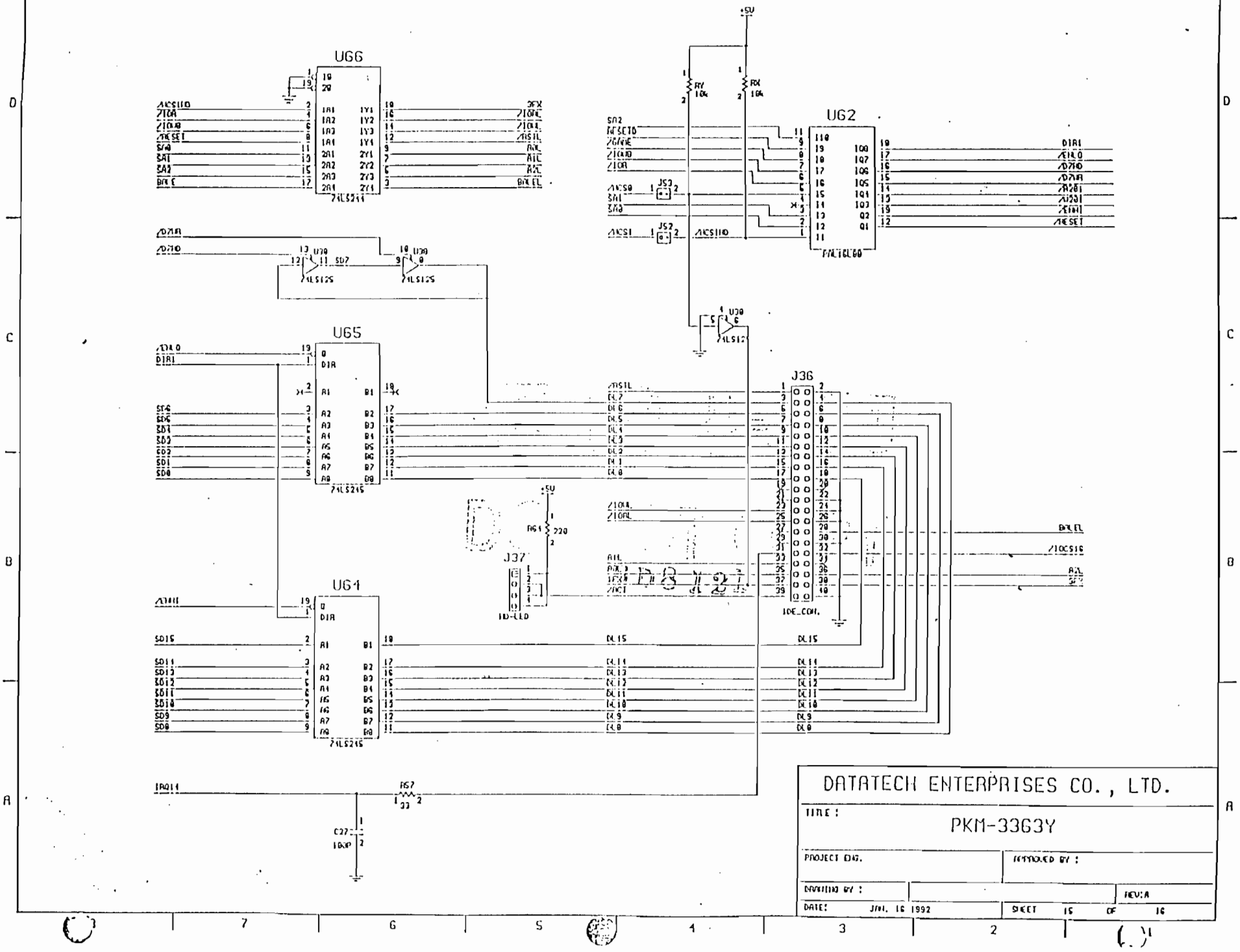
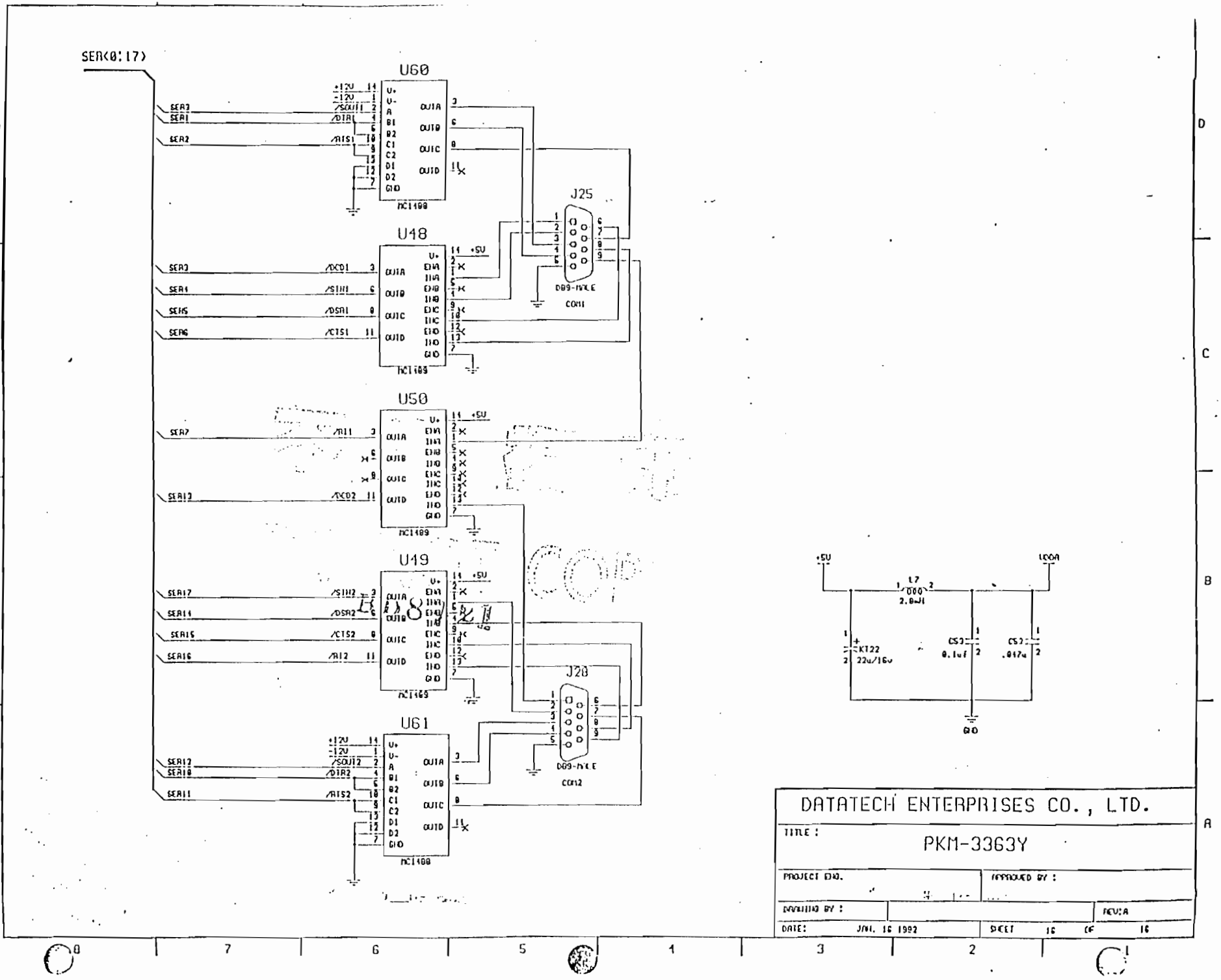
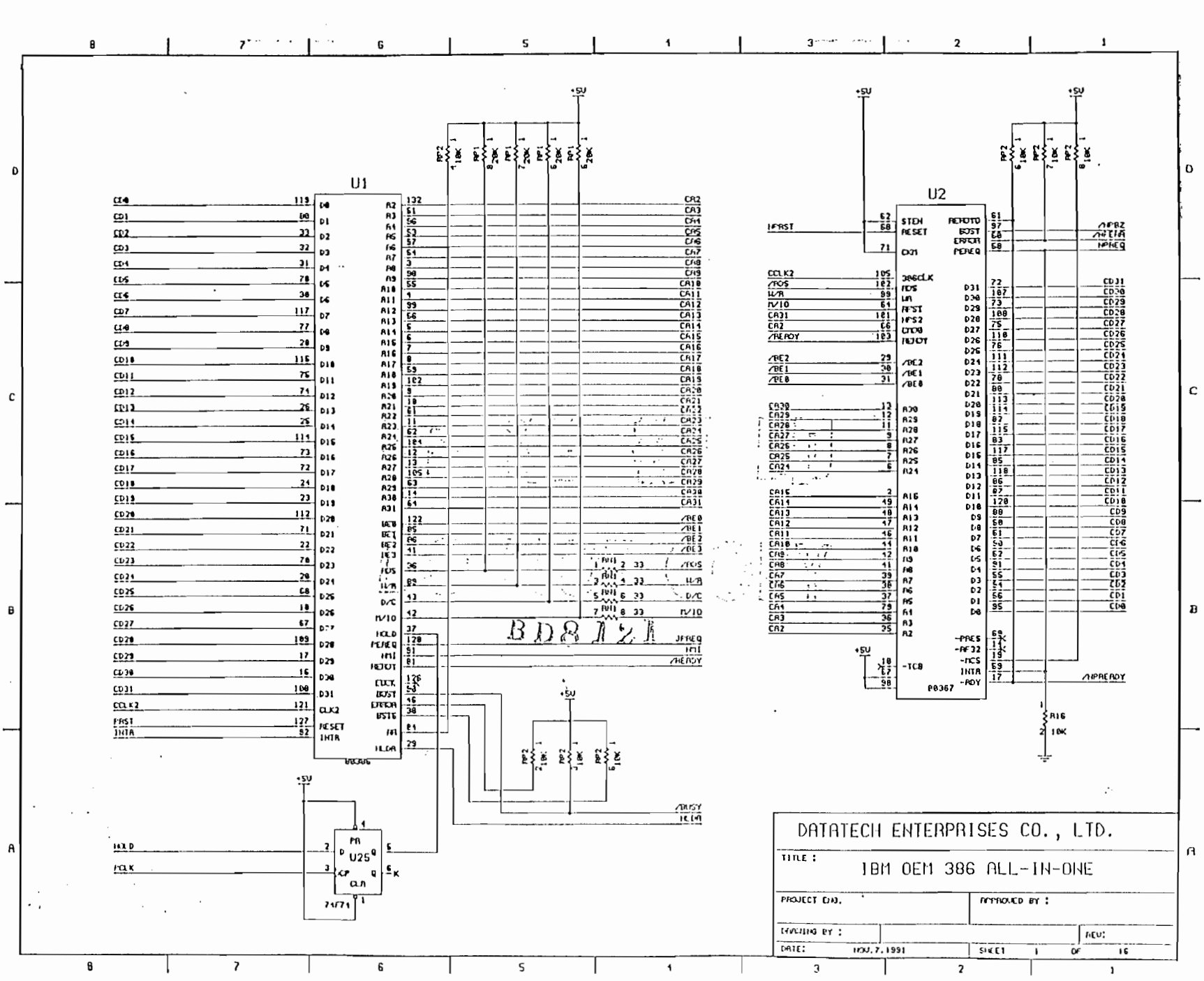
PKM-3363Y
PROJECT ENG.
APPROVED BY :
DRAWING BY :
REVISE-0
DATE: JAN. 16 1992
SHEET 13 OF 16

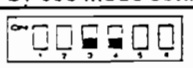
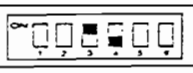
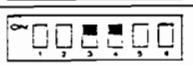

PC87310 U63
J30
J31
J32
J35
J17
DB25 FEMALE
PRINTER.CON
HEADER 34
FLOPPY.CON
DATATECH ENTERPRISES CO., LTD.
PKM-3363Y
PROJECT ENG.
APPROVED BY :
DRAWING BY :
REV:A
DATE: JAN. 16 1992
SHEET 11 OF 16

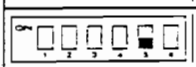

U66
U65
U64
U62
J36
J37
+5V
74LS244
74LS245
74LS125
74LS04
IDE_CON.
LED
DATATECH ENTERPRISES CO., LTD.
TITLE :
PKM-3363Y
PROJECT ENG.
APPROVED BY :
DRAWING BY :
REV:A
DATE: JAN. 16 1992
SHEET 15 OF 16


SER(0:17)
U60
U48
U50
U49
U61
J25
J28
MC1488
DB9-MALE
COM1
COM2
+5V
100A
L7
2.8uH
CK22
22u/16v
CS2
0.1uF
CS2
.047u
GND
DATATECH ENTERPRISES CO., LTD.
TITLE :
PKM-3363Y
PROJECT ENG.
APPROVED BY :
DRAWING BY :
REV:A
DATE: JAN. 16 1992
SHEET 16 OF 16


U1
U2
+5V
BD82C21
U25
74F74
P8367
DATATECH ENTERPRISES CO., LTD.
TITLE :
IBM OEM 386 ALL-IN-ONE
PROJECT NO.
APPROVED BY :
DRAWING BY :
REV:
DATE: NOV.7.1991
SHEET 1 OF 16

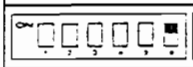
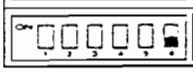
Switch SW1 (1 - 2) 1024 by 768 mode setting	Monitor Vertical Retrace Timing
	interlaced (default)
	60Hz non-interlaced
	70Hz non-interlaced
	interlaced

Switch SW1 (3 - 4) 800 by 600 mode setting	Monitor Vertical Retrace Timing
	50Hz (default)
	60Hz
	72Hz
	56Hz

Switch SW1--5	Function
	31.5KHz standard VGA modes (013) (default)
	35KHz standard VGA modes (013)

SW1--6 — Display Memory Configuration

Jumper SW1--6, is configured for the amount of video display memory installed on the VGA adapter.

Switch SW1--6	Function
	512 Kbytes of video DRAM (default)
	1024 Kbytes of video DRAM

A-15
15

Onboard VGA Feature Connector (J23)

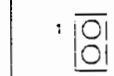
This edge connector and associated circuitry is equivalent to the connector provided by IBM on their PS/2 Display Adapter. It allows fully compatible VGA pass-through to an optional 8514/A graphics adapter, or other video adapter should you choose to upgrade your system.

Onboard VGA Connector (J24)

The 15-pin female connector where all monitors are connected.

Onbord VGA Wait State Selection (Jumper J27)

The VGA adapter has been designed with a wait state jumper which will not permit the board to generate wait states, thus improving performance. The default position is zero wait states. Some systems; however, will not work with zero wait states (symptoms include on-screen data loss). In that situation, remove the jumper at location J27.

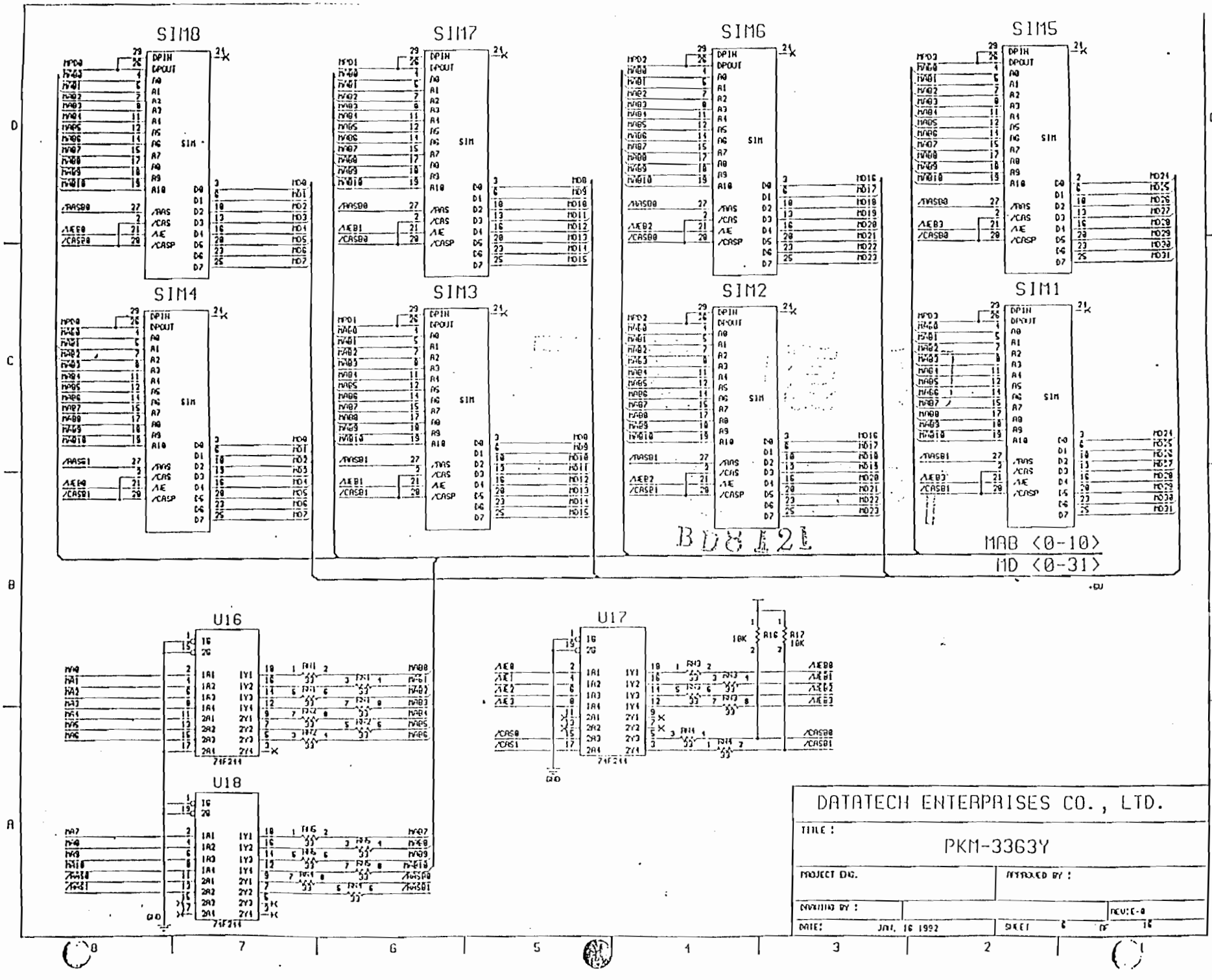
Jumper J27	VGA Adapter Generates
	0 wait states (default)
	wait states

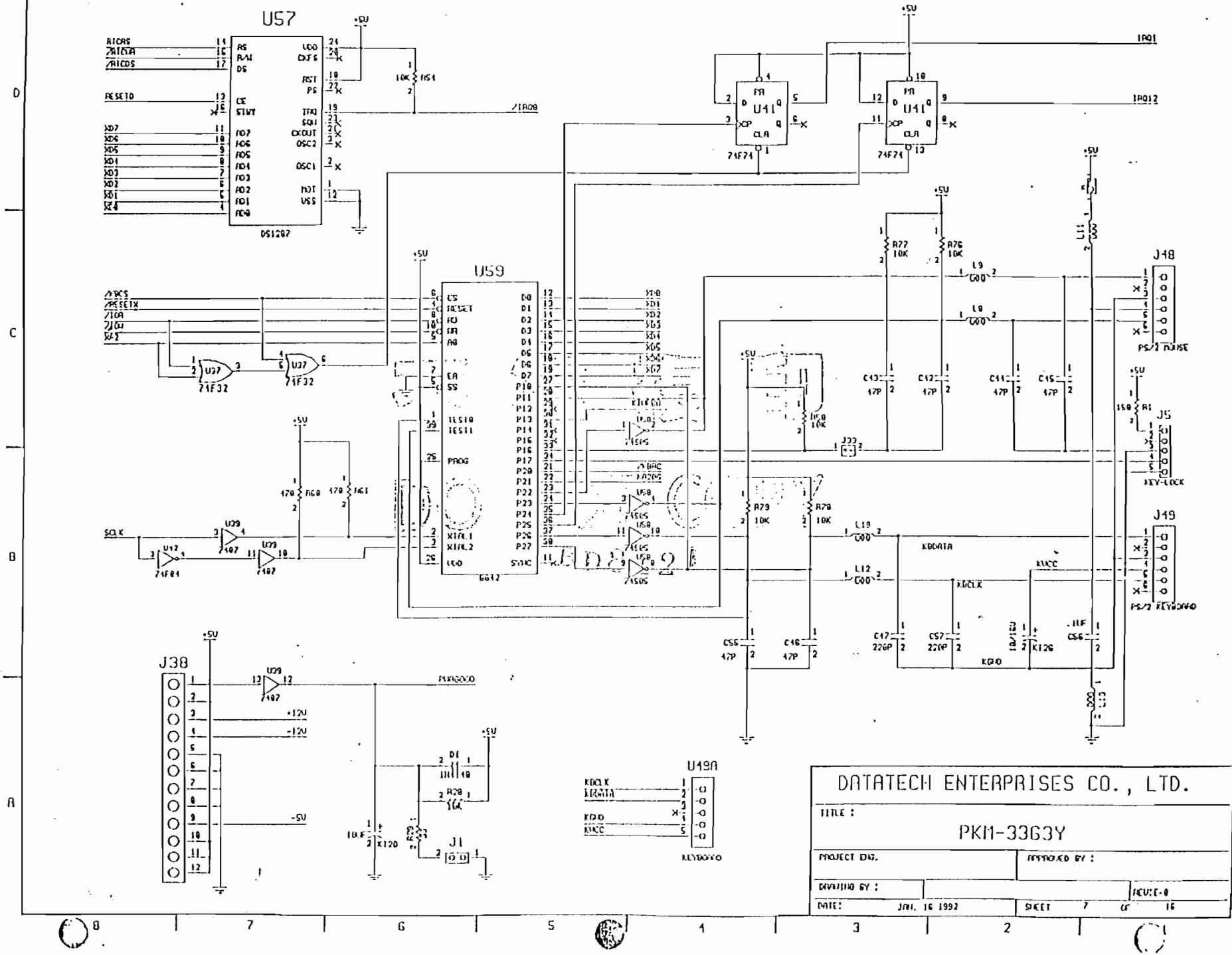
VGA Configuration DIP Switch (SW1)

The VGA adapter is fitted with a six-lever DIP switch which specifies configuration information.

VGA DIP Switch Settings — SW1(1-2), SW1(3-4), SW1--5

A-16/15


SIM8
SIM7
SIM6
SIM5
SIM4
SIM3
SIM2
SIM1
MAB <0-10>
MD <0-31>
U16
U17
U18
DATATECH ENTERPRISES CO., LTD.
TITLE :
PKM-3363Y
PROJECT ENG.
APPROVED BY :
DRAWING BY :
REVISE-0
DATE: JAN. 16 1992
SHEET 6 OF 16



DATATECH ENTERPRISES CO., LTD.	
TITLE : PKM-3363Y	
PROJECT ENG.	APPROVED BY :
DRAWING BY :	REVISE-0
DATE: JAN. 16 1992	SHEET 7 OF 16

V02879

Commodore

Desktop Series
Model 386 DX-33/ 486 SX-20/ 486 DX-33 C

Service Manual

4/92

Commodore

Produced By:

Commodore International Spare Parts GmbH
Braunschweig, West Germany

SERVICE MANUAL

DESKTOP SERIES

Model 386DX-33/ 486SX-20/ 486DX-33C

APRIL, 1992 **PN-400406-02**

INTERNATIONAL EDITION
SERVICE POLICY AND PART NUMBER INFORMATION MAY VARY ACCORDING TO COUNTRY. SOME PARTS MAY NOT BE AVAILABLE IN ALL COUNTRIES.

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SECTION 5 - SCHEMATICS

SCHEMATICS..... 5-1

DESKTOP SERIES SYSTEM SCHEMATICS

SYSTEM HARDWARE FEATURES :

The Desktop System mother board uses an Intel 82340DX or VLSI 82C386 chipset, Acer M5105 multi-IO chip, and Trident 8900C VGA chip.

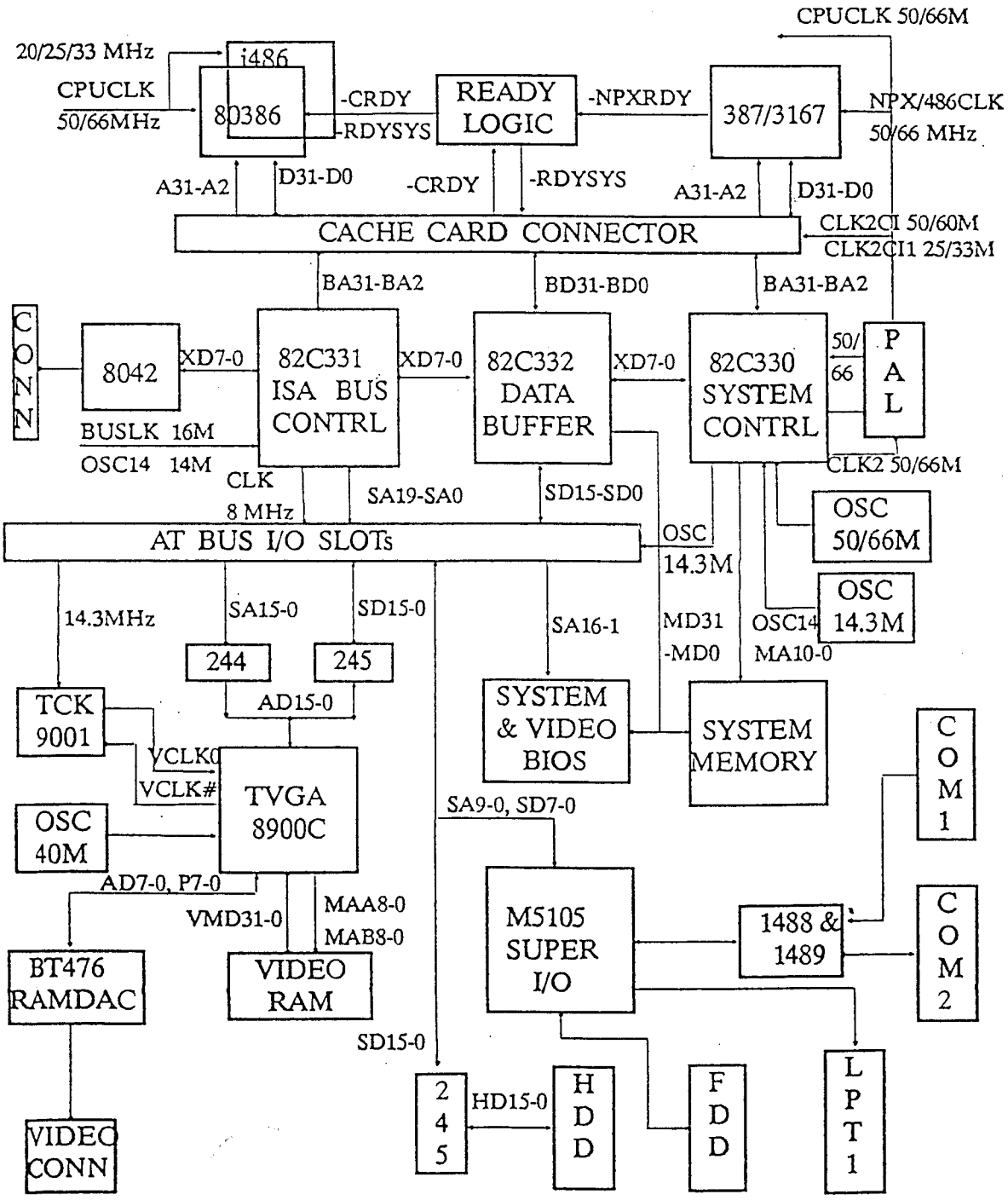
The System can be upgrade from a non cache to cache based, or from 386 based, to a 486 cache system, by changing CPU, CACHE CARD, Oscillator, and PLDs.

System chipsets 82340DX(or 82C386) contains 82346 (or 82C330)system controller , 82344 (or 82C331) I.S.A controller, and 82345 (or 82C332)data buffer. The 82346 system controller packaged in 128-lead EIAJ quad falt package, made with low-power 1.0 micron CMOS process , provides 2/4 way interleave (SS600 II only supports 2 way interleave),page mode or linear DRAM operation within 64Mbyte local DRAM system only suports 32M DRAM) . Full hard ware L.I.M EMS 4.0 , system BIOS shadow RAM are also supported. With the ability to logical re-ordering DRAM banks, "bad" memory can be remapped in order to keep the continousity of the system memory . This means , SIMM MOUDLEs pluged into BANK0 or BANK1 make no difference.

82345 data buffer supports posted write buffers for 386DC CACHE CARD (not for 486 system) and PC/AT X-data, S-data, M-data bus conversions.

82344 ISA bus controller contains all standard PC/AT peripherals including two 8259 interrupt controllers ,two enhanced LS612 address register , one real-time clock/ calendar and 114 bytes of CMOS RAM. Packaged with 160-lead EIAJ quad flat package, fabricated with low-power 1.5 micron CMOS process, 82344 also suppots fast reset CPU reset, fast gate A20, programmable AT BUS command delay and wait state , and other functions compatiable to IBM PC/AT .

BLOCK DIAGRAM



System Perpherial Interfaces Supporting:

Commodore Desktop PC contains flex disk, AT-Bus hard disk, serial port, and parallel port interfaces. All system interfaces are provided by a Super I/O chip, Acer M5105, and can be disabled by DIP switch SW1. Please refer to "Connectors and Jumpers" for detailed information.

The flex disk controller is fully compatible with the industry standard 765A architecture. The UARTs are compatible with NS16450.

VGA Support:

Video is high performance VGA system. It is fully compatible with all standard IBM VGA modes and EGA, CGA, MDA, and Hercules mode, and allows the following:

a. Use of all application software for VGA,CGA,MDA, and Hercules modes.

b. Emulation of EGA, CGA, MDA, and Hercules modes on a VGA monitor.

Extended graphics modes supported as followed:

a. 640 x 400, 640 x 480, 800 x 600, and 1024 x 768 *(interlaced or non-interlaced) 256 colors from a palette of 256K/16M.
b. 800 x 600 and 1024 x 768(interlaced or non-interlaced) in 16 colors from a palette of 256K/16M.
c. 1024 x 768 in 4 colors from a palette of 256K/16M.
d. Extended text modes offer 132-column text with 25, 30, 43, and 60 rows

* NOTE : 800 x 600 256 colors non-interlaced , 1024 x 768 256 colors noninterlaced and interlaced modes are supported only when 1 M VGA memory equipped.

On board VGA can be disabled by the SWITCH . This SWITCH should be configured to the proper state when connected to the non-interlaced VGA monitor.

BIOS Support

System's BIOS V3.10A written by AWARD SOFTWARE INC., together with VGA BIOS VC.21 written by QUATEL SOFTWARE INC. , is programmed into a 64K x 16 -200 EPROM, located from address E0000 to FFFFF, and also duplicated from FFFE0000 TO FFFF0000

The 386DC card

There are two kinds of cache cards for 386 system , one is 395DC cache card and the other is 386DC card. 386 DC card is configured with 64k cache memory, built by discrete logics , while 395DC cache card is a single chip solution. 386DC card is a direct map 64K cache system equipped with one level buffers for posted write operation, physical sizing as the same as 486DC and 395DC cache cards .

* See Block Diagram

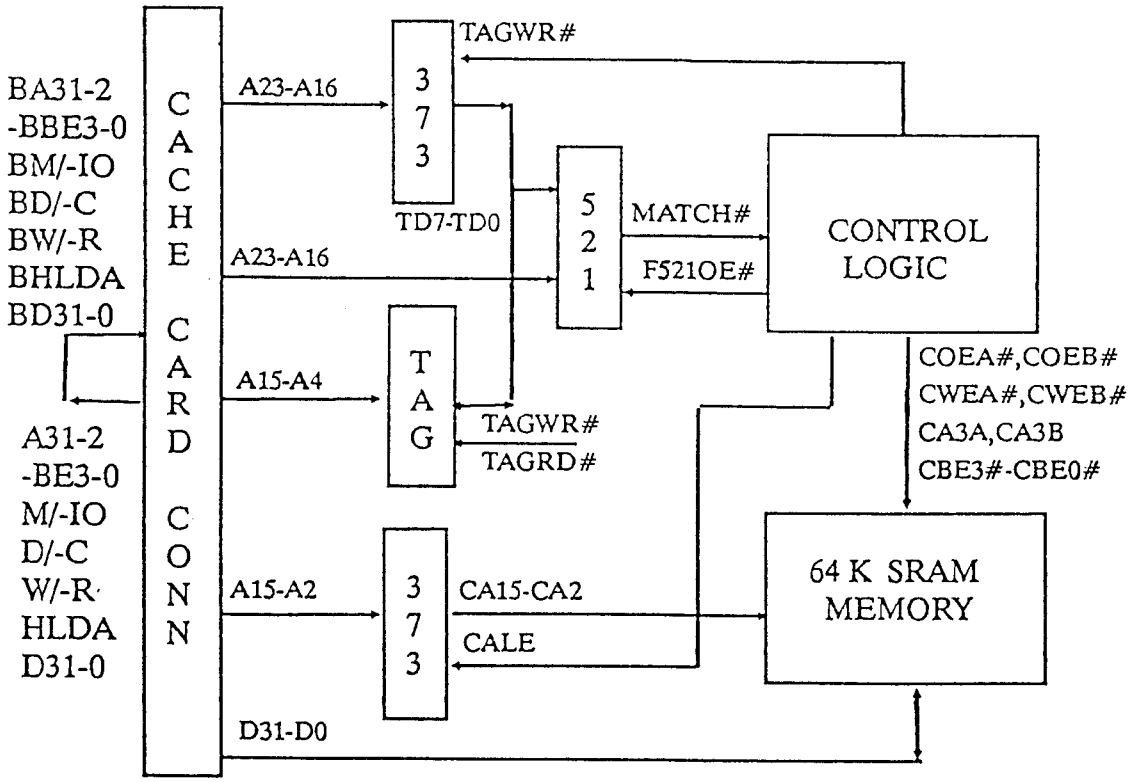
486DC Card

The 486DC card is built with discrete TTLs and PALs, features direct map 64k cache, together with PALs, U48, U61, and OSC .

* See Block Diagram

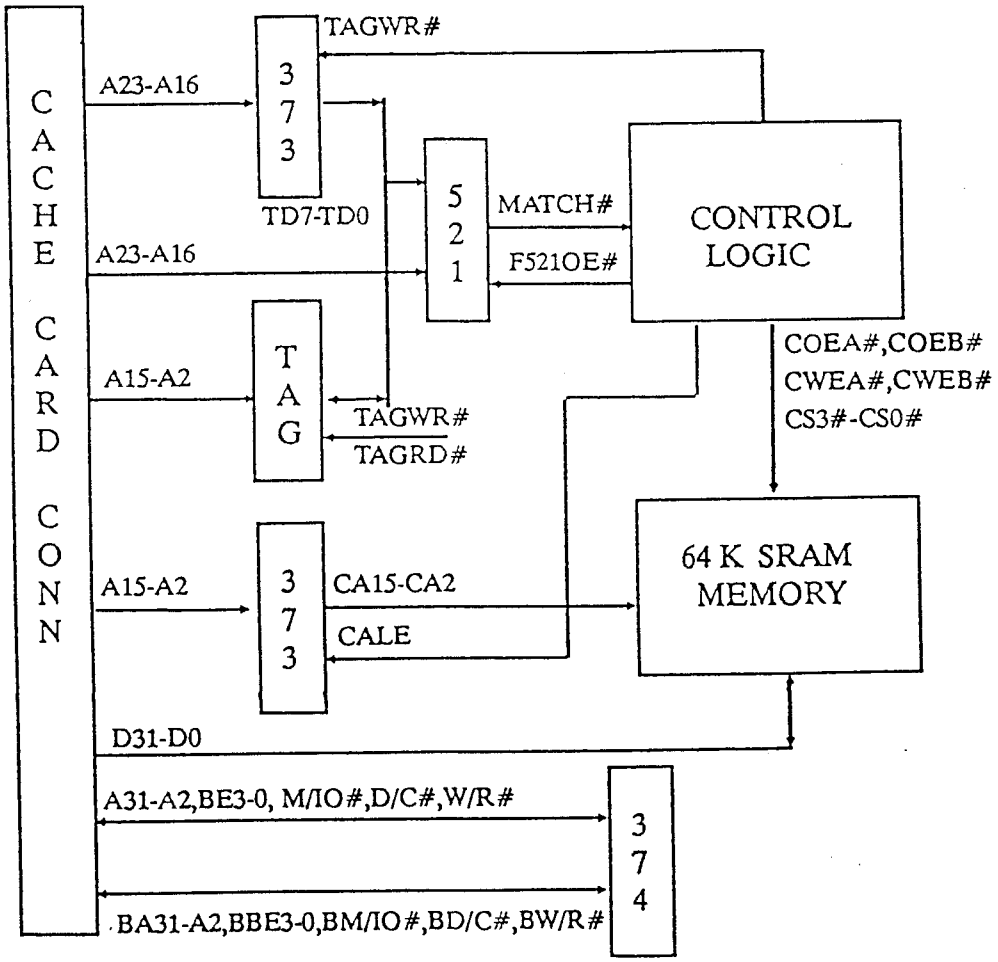
486DC CARD

The 486DC card , sizing about 8.4 cm x 11 cm, consists of eight 8K x 8 -25 SRAM , six PALs, one 8K x 8-15 TAG RAM, one FCT521B comparator and TTLs. Following is 486DC card block diagram :



386DC CARD

When 386DC card is also installed at cache card slot, CPU speed will be upgraded to 51.9 MHz. Because 386DC card and 395DC cache card are both running at non-pipeline mode , housing of J19 should be removed when cache card is installed



The block diagram of 386DC card is shown above, where TAG RAM consists of two 16Kx4 -20 SRAM , cache memory consists of eight 8Kx8 SRAM . The posted write data buffers are built into 82C332 buffer chip , and address is latched and buffered by 74F374s.

Memory Subsystem

DRAM SUBSYSTEM DESCRIPTION

The System supports up to 32 Mbyte of DRAM in two 32-bit banks. Each byte contains its own parity bit for a total of 36 bits per bank. A single bank can consist of 256K, 1M or 4M DRAMs. The parts used in 2 banks can consist of all one DRAM type or mixtures of any two types. Several configuration registers are used to control the memory map, DRAM timing and page mode.

The TABLE 1 shows the DRAM combinations that are addressable in each of two 32-bit memory banks.

TABLE 1. DRAM MEMORY MAPS SUPPORTED

BANK 0	BANK1	MEMORY MB
256K	0	1 MB
0	256K	1 MB
1M	0	4 MB
0	1M	4 MB
1M	256K	5 MB
256K	1M	5 MB
1M	1M	8 MB
4M	0	16 MB
0	4M	16 MB
4M	1M	20 MB
1M	4M	20 MB
4M	4M	32 MB

In order to raise performance and decrease system cost, both page mode and interleave operation are available on the system board DRAM. Options registers. Page mode is enabled or disabled for each pair of DRAM banks independently. When on, it is active on all memory maps for the enabled bank pairs. Interleaving requires pairs of banks. Two-way interleaving is automatically enabled whenever both banks of a pair are populated with like DRAM types, it is possible to select which bit is used for intereaving by register RAMSET bit 1. When set to 0, interleave occurs on bit2. This is called"word interleaving". When set to 1, interleave occurs on bit 11 regardless of DRAM types used. This is called "block interleaving".

Two configuration registers are used to program the DRAM timing parameters. RASTMA allows programming of RAS ADDSEL delay, tRCD, tRP, and tRAS parameters for banks 0 and 1.

Table 2. DRAM wait states (80 ns)

	Read	Read	Write	Wite
	Page hit	Page miss	Page hit	Page miss
486-33C	2 ws	6 ws	2 ws	6 ws
486-20	1 ws	4 ws	1 ws	4 ws
386-33C	2 ws	6 ws	2 ws	6 ws

* Pipeline mode

EMS Subsystem

The EMS system consists of 72 mapping registers. They are split into a standard and alternate set of 36 registers each. The system supports the full LIM EMS 4.0 specification with any of higher. The alternate register set allows rapid hardware context switching. Note that the System is capable of translating addresses via the EMS registers over the entire 32 Mbyte range of possible system board memory.

The EMS system is split into two parts, the 12 EMS page registers which cover the range from C0000h to EFFFFh and the 24 backfill registers that cover 40000h to 9FFFFh.

There is no wasted DRAM in Desktop System. All memory not allocated for other purposes can be used as expanded mrmory.

Shadow RAM Subsystem

Six indexed configuration registers are provided to give complete control over each of the 64K memory segments between 640K and 1M. The registers are called AAXS, BAXS, CAXS, DAXS, EAXS, and FAXS.

The four modes provided for shadow RAM system is shown below:

1. Normal PC/AT-compatible operation

   This is R/W slot bus or ROM chip select depending on the memory space.

2. R/W system board DRAM. This allows complete access to DRAM in the given 16 Kbyte region.

3. Read-only DRAM. This is the normal shadow operational mode though it could be used to protect data previously written to a memory area while configured for mode 2. In this mode, writes are directed to the slot bus.

4. Shadow setup mode. In the E0000 and F0000 segments, reads cause on-board

DRAM. ROM chip selects and writes to the same address are to system board In the segments A000 to D000 reads are from the slot bus and writes are to the system board DRAM. This allows shadowing of system board ROM as well as ROMs on a slot card.

Video Subsystem

The VGA System is built with TRIDENT TVGA8900c and clk chip TCK9001. It supports fully compatibie IBM standrad VGA mode and high resolution extended mode (interlaced or non-interlaced). The standard Video memory is 512KB formed by four 256Kx4 80ns DRAM and can be upgraded to 1M Video memory with four additional 256Kx4 80ns DIP type DRAM.

It is compatible with all application software for VGA,EGA,CGA,MDA, and Hercules modes and capable with emulation of EGA, CGA,MDA, and Hercules modes on a VGA monitor.

For 512KB standard Video memory, it can support 640 x 480 256 colors mode, 1024 x 768 16 colors interlaced mode ,1024 x 768 16 color non-interlaced mode, and 800 x 600 256 colors interlaced mode. If 1M Video memory is installed , 800 x 600 256 colors non-interlaced mode, 1024 x 768 256 colors interlaced and non-interlaced modes can be supported.

The following is the standard IBM VGA mode and extened mode supported

Mode	Alpha format	Box size	Resolution	Color	Max. pages
0,1	40 x 25	8 x 8	320 x 200	16	8
2,3	80 x 25	8 x 8	640 x 200	16	8
0*,1*	40 x 25	8 x 14	320 x 350	16	8
2*,3*	80 x 25	8 x 14	640 x 350	16	8
0+,1+	40 x 25	9 x 16	360 x 400	16	8
2+,3+	80 x 25	9 x 16	720 x 400	16	8
4,5	40 x 25	8 x 8	320 x 200	4	1
6	80 x 25	8 x 8	640 x 200	2	1
7	80 x 25	9 x 14	720 x 350	mono	8
7+	80 x 25	9 x 16	720 x 400	mono	8
D	40 x 25	8 x 8	320 x 200	16	8
E	80 x 25	8 x 8	640 x 200	16	4
F	80 x 25	8 x 14	640 x 350	mono	2

(continued)

Mode	Alpha format	Box size	Resolution	Color	Max. pages
10	80 x 25	8 x 14	640 x 350	16	2
11	80 x 30	8 x 16	640 x 480	2	1
12	80 x 30	8 x 16	640 x 480	16	2
13	40 x 25	8 x 8	320 x 200	256	2
50	80 x 30	8 x 16	640 x 480	16	4
51	80 x 43	8 x 11	640 x 2473	16	4
52	80 x 80	8 x 8	640 x 480	16	2
53	132 x 25	8 x 14	1056 x 350	16	4
54	132 x 30	8 x 16	1056 x 480	16	2
55	132 x 43	8 x 11	1056 x 473	16	2
56	132 x 80	8 x 8	1056 x 480	16	2
57	132 x 25	9 x 14	1188 x 350	16	4
58	132 x 30	9 x 16	1188 x 480	16	2
59	132 x 43	9 x 11	1188 x 473	16	2
5A	132 x 80	9 x 8	1188 x 480	16	2
5B **	100 x 75	8 x 8	800 x 600	16	1
5C	80 x 25	8 x 16	640 x 400	256	1
5D	80 x 30	8 x 16	640 x 480	256	1
5E(I/NI)**	100 x 37	8 x 16	800 x 600	256	1
5F(I)**	128 x 48	8 x 16	1024 x 768	16	1
60 (I)**	128 x 48	8 x 16	1024 x 768	4	1
61**	96 x 64	8 x 16	768 x 1024	16	1
62 (I/NI)	128 x 48	8 x 16	1024 x 768	256	1

notes: + horiz scan lines = 300

* horiz scan lines = 350

** Multisync monitor needed

(I) interlaced monitor

(NI) non-interlaced monitor

(I/NI) interlaced or non-interlaced monitor

Floppy Drive

The super I/O m5105 supports 765a compatible floppy interface including 360K, 720K, 1.2M and 1.44MB floppy disk drive.

Hard Drive

The system supports AT bus hard disk interface circuit. It provides 3 bays for disks and one internal hard disk space.

Serial Ports

The system is equipped with 2 serial port interfaces. These 2 UART's are compatible with NS16450 and have programmable baud rate generator capable of dividing the timing reference clock input by divisors of 1 to (2^16 -1) . It also has complete modam-control capability and a processor-interrupt system. Interrupts can be programmed to the user's requirements, minimizing the computing required to handle communications link. The following is the address ranges and interrupt channels used:

COM1 serial port responds to sddress range 3F8H- 3FFH, IRQ4

COM2 serial port responds to sddress range 2F8H- 2FFH, IRQ3

Central Processing Unit (C PU) & Coprocessor

386 system CPU	:INTEL 386DX-33 or AMD 386DX-33
386 system Coprocessor	:INTEL 387DX-33, or WEITEK 3167-33
486 system CPU	:INTEL 486DX-33 ,or INTEL 486SX-20
486 system Coprocessor	:INTEL 486DX-33, or :INTEL 487SX-20

Physical Environment

- Operation temperature range 0 C to 40 C (59 F to 90 F)
- Non-operating temperature range -10 C to 60 C (50 F to 109 F)
- Humidity range 20% to 80%
- Maximum altitude 2133 meters (7000 feet)

Connectors and Jumpers

Jumpers

J6	1-2	: IRQ9 used in VGA system
	2-3	: IRQ9 not used
J11	1-2	: Mono Display
	OFF	: Color Display
J19	1-2	: ON = 386 System in Pipeline mode
	1-2	: OFF = 386 System in Pipeline mode
J22	1-2	: 386 CPU used
	2-3	: 486 CPU used
J23	1-2	: Normal operation
	2-3	: ON = Reset System
JP3	1-2	: ON = Normal Operation
	2-3	: OFF = Reset CMOS RAM

SW1

A. ON : VGA Interlace Mode
OFF : VGA Non-interlace Mode
B. ON : VGA Enabled
OFF : VGA Disabled
C. ON : VGA Enabled
OFF : VGA Disabled
D. ON : Printer Enabled
OFF : Printer Disabled
E. ON : COM2 Enabled
OFF : COM2 Disabled
F. ON : COM1 Disabled
OFF : COM1 Disabled
G. ON : Floppy Enabled
OFF : Floppy Disabled
H. ON : Hard disk Enabled
OFF : Hard disk Disabled

SW2

A	B	C	D	E	F	G	H	CPU Type
ON	ON	ON	OFF	OFF	OFF	OFF	OFF	80486DX used
OFF	OFF	OFF	ON	ON	ON	OFF	OFF	80487SX used
OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	80486SX used

Connectors

JP2 :HDD LED Connector

1.HDD +
2.HDD -

J13 :Key- Lock

1.Key - Lock (Active Low)
2.GND

J7 : AT I/O slot

OSC4 : Oscillator socket

U57 : 486 CPU socket

U58 : 386 CPU socket

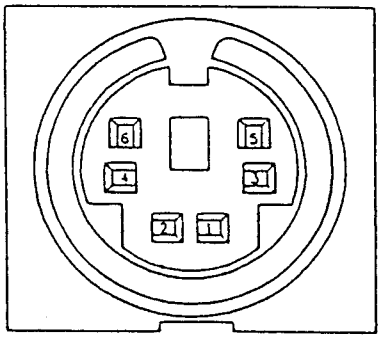
U59 : 387/3167 socket

J16,17 : Cache card connectors

U9,10,11,12
: Upgrading Video RAM Sockets
DIP 256K x 4

U16,17,18,19,20,21,22,23
: SIMM Sockets

Keyboard Socket (J5)

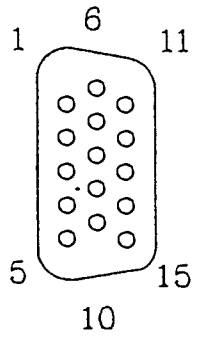


Pin	Signal
1	Data
2	Reserved
3	Ground
4	+5V DC
5	CLK
6	Reserved

Power Supply (J9,J10)

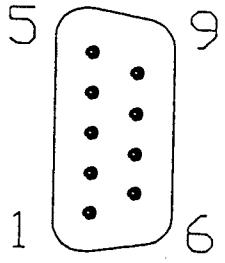
Name	Pin	Signal
	1	Power Good
	2	+5V
J9	3	+12V
	4	-12V
	5	Ground
	6	Ground
	1	Ground
	2	Ground
J10	3	-5V
	4	+5V
	5	+5V
	6	+5V

Video Port Analog Output J1



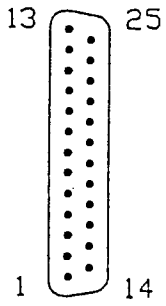
Pin	Signal	Pin	Signal
1	Red	9	NC
2	Green	10	Ground
3	Blue	11	Monitor select 1
4	Monitor select 2	12	Monitor select 0
5	Ground	13	Hsync
6	Ground	14	Vsync
7	Ground	15	NC
8	Ground		

Serial Port 9 Pin COM 2 J4



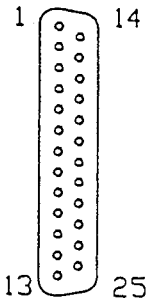
Pin	Signal	Pin	Signal
1	RLSD	6	Data Set Ready
2	Receive Data	7	Request to send
3	Transmit Data	8	Clear to send
4	Data Terminal Ready	9	Ring Indicate
5	Ground		

Serial Port 25 Pin COM1 J3



Pin	Signal	Pin	Signal
1	NC	14	NC
2	Transmit data	15	NC
3	Receive data	16	NC
4	Request to send	17	NC
5	Clear to send	18	NC
6	Data set ready	19	NC
7	Signal Ground	20	Data Terminal ready
8	RLSD	21	NC
9	NC	22	Ring indicate
10	NC	23	NC
11	NC	24	NC
12	NC	25	NC
13	NC		

Parallel Port (Printer) J2



Pin	Signal	Pin	Signal
1	-STORE	14	-AUTO FEED XT
2	D0	15	-ERROR
3	D1	16	-INIT
4	D2	17	-SLCT IN
5	D3	18	Ground
6	D4	19	Ground
7	D5	20	Ground
8	D6	21	Ground
9	D7	22	Ground
10	-ACK	23	Ground
11	BUSY	24	Ground
12	PE	25	Ground
13	SLCT		

Floppy Disk Drive Interface. J15

Pin	Signal	Pin	Signal
1	Ground	18	-Direction
2	RWC/RPM	19	Ground
3	Ground	20	-Step
4	Reserved	21	Ground
5	Ground	22	-Write data
6	Reserved	23	Ground
7	Ground	24	-Write enable
8	-Index	25	Ground
9	Ground	26	-Track 0
10	-Motor enable 1	27	Ground
11	Ground	28	-Write protect
12	-Drive select 2	29	Ground
13	Ground	30	-Read data
14	-Drive select 1	31	Ground
15	Ground	32	-Head select
16	-Motor enable 2	33	Ground
17	Ground	34	-Diskette change

AT-Bus HDD Interface J14

Pin	Signal	Pin	Signal
1	-Host Reset	2	GND
3	+HOST DATA 7	4	+HOST DATA 8
5	+HOST DATA 6	6	+HOST DATA 9
7	+HOST DATA 5	8	+HOST DATA 10
9	+HOST DATA 4	10	+HOST DATA 11
11	+HOST DATA 3	12	+HOST DATA 12
13	+HOST DATA 2	14	+HOST DATA 13
15	+HOST DATA 1	16	+HOST DATA 14
17	+HOST DATA 0	18	+HOST DATA 15
19	GND	20	KEY
21	RSVD	22	GND
23	-HOST IOW	24	GND
25	-HOST IOR	26	GND
27	RSVD	28	+HOST ALE
29	RSVD	30	GND
31	+HOST IRQ 14	32	-HOST IO 16
33	+HOST ADDR 1	34	- HOST PDIAG
35	+HOST ADDR 0	36	+HOST ADDR2
37	-HOST CS0	38	-HOST CS1
39	-HOST SLV/ACT	40	GND

AT BUS I/O wait states

AT BUS Cycle	command width	command delay
8 bit I/O read	4.5 CLK	0.5 CLK
8 bit I/O write	4.5 CLK	0.5 CLK
8 bit memory read	5 CLK	0 CLK
8 bit memory write	5 CLK	0 CLK
16 bit I/O read	1.5 CLK	0.5 CLK
16 bit I/O write	1.5 CLK	0.5 CLK
16 bit memory read	2 CLK	0 CLK
16 bit memory write	2 CLK	0 CLK
DMA memory read	4 CLK	2 CLK
DMA memory write	4 CLK	0 CLK
DMA I/O read	6 CLK	0 CLK
DMA I/O write	4 CLK	0 CLK
ROM BIOS	8 CLK	0 CLK

AT BUS CLK frequency & system speed

SYSTEM	AT BUS CLK	DMA CLK
486/386 -33	8.25MHz	4.13MHz
486 SX-20	10MHz	5MHz

Dedicated I/O Control Register in 340DX chipset

port address	function
E8H	EMS index Register
E9H	EMS Active Set
EAH	EMS Data Port Low Byte
EBH	EMS Data Port High Byte
ECH	Configuration Index Register
EDH	Configuration Data Port
EEH	Fast A20
EFH	Fast Reset
F0H	Coprocessor Busy Clear
F1H	Coprocessor Reset
F4H	Slow CPU
F5H	Fast CPU
F8H	Coprocessor
F9H	Configuration Disable
FAH	Coprocessor
FBH	Configuration Enable
FCH	Coprocessor
FEH	Coprocessor
92H	Port A

AT BUS I/O Address Map (contineous)

0300	
	RESERVED
0378	
	PARALLEL PORT 1
0380	
	RESERVED
03B0	
	VIDEO SYSTEM
03F0	
	FLOPPY CONTROLLER
03F8	
	SERIAL PORT 1
03FF	

Interrupts

Interrupt Number	Function
0	Timer Channel 0
1	Keyboard (output buffer full)
2	Interrupt from CTLR 2
3	Serial Port (Secondary)
4	Serial Port (Primary)
5	Parallel Port 2
6	Diskette Controller
7	Parallel Port 1
8	Realtime Clock Interrupt
9	Software Redirected to INT 0AH (IRQ 2)
10	Reserved
11	Reserved
12	Reserved
13	Coprocessor
14	Fixed Disk Controller
15	Reserved

DMA, Timer/Counter & Clock/Calendar

The system supports seven DMA channels:

DMA Channel No	Function
Channel 0	Spare
Channel 1	*SDLC
Channel 2	Diskette
Channel 3	Spare
Channel 5	Spare
Channel 6	Spare
Channel 7	Spare

*SDLC : Synchronous Data Link Control Communication

Programmable Timer/Counters:

Channel No	Function
Channel 0	Supports system timer
Channel 1	Supports refresh cycles
Channel 2	Supports the tone generation for audio speaker

Clock/Calendar:

Real-time clock/calendar with a rechargeable Ni-Cd battery back-up.
Expected battery life: 5 years.

Memory Map

Address	memory used
0000000-009FFFF	640 KB system r/w memory
00A0000-00BFFFF	128 KB graphic buffers
00C0000-00DFFFF	not used
00E0000-00FFFFF	128 KB system & VGA BIOS
0100000-1FFFFFF	31 MB extended memory

System & VIDEO BIOS:

System BIOS version is AWARD and VGA BIOS version is C2.1

AT Bus I/O Subsystem

AT BUS I/O Address Map

0000	DMA CONTROLLER 1	00F0	CLEAR 80287 BUSY
0020	INTERRUPT CONTROLLER 1	00F1	RESET 80287
0040	TIMER/COUNTER	00F8	80287
0060	KEYBOARD CONTROLLER	01F0	FIXED DISK
0070	RTC, NMI REGISTER	0200	RESERVED FOR GAME PORT
0080	DMA PAGE REGISTER	0278	RESERVED FOR LPT2
00A0	INTERRUPT CONTROLLER 2	027F	RESERVED
00C0	DMA CONTROLLER 2	02F8	RESERVED FOR SERIAL PORT 2
00EF		02FF	

Note: I/O Address ECH and EDH are used as configuration registers.

Commodore International Spare Parts List

Shipping Assemblies

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SHIP ASSY DT386DX-33C EUROPE

523868-01 DT386DX-33C 2M
523868-02 DT386DX-33C 2M 3F1.44M
523868-03 DT386DX-33C 2M 3F1.44M 3H50MB
523868-04 DT386DX-33C 2M 3F1.44M 3H100MB
523868-05 DT386DX-33C 2M 3F1.44M 3H200MB
523868-06 DT386DX-33C 4M
523868-07 DT386DX-33C 4M 3F1.44M
523868-08 DT386DX-33C 4M 3F1.44M 3H50MB
523868-09 DT386DX-33C 4M 3F1.44M 3H100MB
523868-10 DT386DX-33C 4M 3F1.44M 3H200MB
363736-01 BOX SINGLE PACK
363735-01 FOAM SUPPORT
369260-01 LABEL PACKING BOX DT386-33C
364711-01 MAIN ASSY DT386DX-33C 2M 220V UNIT
390698-01 SIMM MODULE 1M
394438-01 DRIVE FLOPPY DISK ASSY 1.44M 3.5"
311839-01 DRIVE HARD DISK 50MB/19MS
311840-01 DRIVE HARD DISK 100MB/19MS
311639-01 DRIVE HARD DISK 200MB
311639-02 DRIVE HARD DISK 200MB SUB FOR 311639-01
906610-01 SCREW MACH #6-32 X .250" LG FOR HDD
906800-03 SCREW MACH M3 X .5 X .8 LG FOR HDD
316585-08 LABEL HDD TYPE #26 FOR 52MB
316585-09 LABEL HDD TYPE #27 FOR 105MB
316585-07 LABEL HDD TYPE #47 FOR 202MB
325090-04 SEAL WARRANTY MANUFACTURING
368084-01 SEAL TAMPER EVIDENT ON BOX FLAPS

SHIP ASSY DT386DX-33C U.S.

523869-01 DT386DX-33C U.S. 2M
523869-02 DT386DX-33C U.S. 2M 3F1.44M
523869-03 DT386DX-33C U.S. 2M 3F1.44M 3H50MB
523869-04 DT386DX-33C U.S. 2M 3F1.44M 3H100MB
523869-05 DT386DX-33C U.S. 2M 3F1.44M 3H200MB
523869-06 DT386DX-33C U.S. 4M
523869-07 DT386DX-33C U.S. 4M 3F1.44M
523869-08 DT386DX-33C U.S. 4M 3F1.44M 3H50MB
523869-09 DT386DX-33C U.S. 4M 3F1.44M 3H100MB
523869-10 DT386DX-33C U.S. 4M 3F1.44M 3H200MB
363736-01 BOX PACKING
363735-01 FOAM SUPPORT
369260-01 LABEL PACK BOX
364711-01 MAIN ASSY DT386DX-33C 2MB 110V UNIT
390698-01 1M SIMM MODULE
394438-01 DRIVE FDD ASSY 1.44M 3.5"
311839-01 DRIVE HD 50MB/19MS
311840-01 DRIVE HD 100MB/19MS
311639-01 DRIVB HARD DISK 200MB
311639-02 DRIVE HARD DISK 200MB (SUB FOR 311639-01)
906610-01 SCREW MACH #6-32 X .250"LG FOR HDD QTY 4
906800-03 SCREW MACH M3 X .5 X .8 LG FOR HDD QTY 4
316585-08 LABEL HDD TYPE #26 FOR 52MB
316585-09 LABEL HDD TYPE #27 FOR 105MB
316585-07 LABEL HDD TYPE #47 FOR 202MB
325090-04 SEAL WARRANTY ON UNIT CASE
368084-01 SEAL TAMPER EVIDENT ON BOX FLAPS
369254-01 LABEL UPC DT386DX-33C 2M
369254-02 LABEL UPC DT386DX-33C 2M 3F1.44M
369254-03 LABEL UPC DT386DX-33C 2M 3F1.44M 3H50MB

SHIP ASSY DT386DX-33C U.S.

369254-04 LABEL UPC DT386DX-33C 2M 3F1.44M 3H100MB
369254-05 LABEL UPC DT386DX-33C 2M 3F1.44M 3H100MB
369254-06 LABEL UPC DT386DX-33C 4M
369254-07 LABEL UPC DT386DX-33C 4M 3F1.44M
369254-08 LABEL UPC DT386DX-33C 4M 3F1.44M 3H50MB
369254-09 LABEL UPC DT386DX-33C 4M 3F1.44M 3H100MB
369254-10 LABEL UPC DT386DX-33C 4M 3F1.44M 3H200MB

SHIP ASSY DT486SX-20A U.S.

523871-01 DT486SX-20A U.S. 2M
523871-02 DT486SX-20A U.S. 2M 3F1.44M
523871-03 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-04 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-05 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-06 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-07 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-08 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-09 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
523871-10 DT486SX-20A U.S. 2M 3F1.44M 3H50MB
363736-01 BOX SINGLE PACK
363735-01 FOAM SUPPORT
364711-04 MAIN ASSY DT486SX-20A 2M 110V UNIT
390698-01 SIMM MODULE 1M
394438-01 DRIVE FLOPPY DISK ASSY 1.44M 3.5"
311839-01 DRIVE HARD DISK 50MB/19MS
311840-01 DRIVE HARD DISK 100MB/19MS
311639-01 DRIVE HARD DISK 200MB
311639-02 DRIVE HARD DISK 200MB SUB FOR 311639-01
906610-01 SCREW MACH #6-32 X .250" LG FOR HDD
906800-03 SCREW MACH M3 X .5 X .8 LG FOR HDD
316585-08 LABEL HDD TYPE #26 FOR 52MB
316585-09 LABEL HDD TYPE #27 FOR 105MB
316585-07 LABEL HDD TYPE #47 FOR 202MB
325090-04 SEAL WARRANTY MANUFACTURING
368084-01 SEAL TAMPER EVIDENT ON BOX FLAPS
369255-01 LABEL UPC DT486DX-20A 2M
369255-02 LABEL UPC DT486DX-20A 2M 3F1.44M
369255-03 LABEL UPC DT486DX-20A 2M 3F1.44M 3H50MB
369255-04 LABEL UPC DT486DX-20A 2M 3F1.44M 3H100MB
369255-05 LABEL UPC DT486DX-20A 2M 3F1.44M 3H100MB
369255-06 LABEL UPC DT486DX-20A 4M
369255-07 LABEL UPC DT486DX-20A 4M 3F1.44M
369255-08 LABEL UPC DT486DX-20A 4M 3F1.44M 3H50MB
369255-09 LABEL UPC DT486DX-20A 4M 3F1.44M 3H100MB
369255-10 LABEL UPC DT486DX-20A 4M 3F1.44M 3H200MB

SHIP ASSY DT486DX-33C EUROPE

523872-01 DT486DX-33C 2M
523872-02 DT486DX-33C 2M 3F1.44M
523872-03 DT486DX-33C 2M 3F1.44M 3H50MB
523872-04 DT486DX-33C 2M 3F1.44M 3H100MB
523872-05 DT486DX-33C 2M 3F1.44M 3H200MB
523872-06 DT486DX-33C 4M
523872-07 DT486DX-33C 4M 3F1.44M
523872-08 DT486DX-33C 4M 3F1.44M 3H50MB
523872-09 DT486DX-33C 4M 3F1.44M 3H100MB
523872-10 DT486DX-33C 4M 3F1.44M 3H200MB
363736-01 BOX PACKING
363735-01 FOAM SUPPORT

Commodore International Spare Parts List

Shipping Assemblies

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SHIP ASSY DT486DX-33C EUROPE CONTINUED

369261-01	LABEL PACKING BOX DT486DX-33C
364711-06	MAIN ASSY DT486DX-33C 2MB 110V UNIT
390698-01	1M SIMM MODULE
394438-01	DRIVE FLOPPY DISK ASSY 1.44M 3.5"
311839-01	DRIVE HARD DISK 50MB/19MS
311840-01	DRIVE HARD DISK 100MB/19MS
311639-01	DRIVE HARD DISK 200MB
311639-02	DRIVE HARD DISK 200MB SUB FOR 311639-01
906610-01	SCREW MACH #66-32 X .250"LG FOR HDD
906800-03	SCREW MACH M3 X .5 X .8 LG FOR FDD
316585-08	LABEL HDD TYPE #26 FOR 52MB
316585-09	LABEL HDD TYPE #27 FOR 105MB
316585-07	LABEL HDD TYPE #47 FOR 202MB
325090-04	SEAL WARRANTY ON UNIT CASE
368084-01	SEAL TAMPER EVIDENT ON BOX FLAPS

SHIP ASSY DT486DX-33C U.S.

523873-01	DT486DX-33C U.S. 2M
523873-02	DT486DX-33C U.S. 2M 3F1.44M
523873-03	DT486DX-33C U.S. 2M 3F1.44M 3H50MB
523873-04	DT486DX-33C U.S. 2M 3F1.44M 3H100MB
523873-05	DT486DX-33C U.S. 2M 3F1.44M 3H200MB
523873-06	DT486DX-33C U.S. 4M
523873-07	DT486DX-33C U.S. 4M 3F1.44M
523873-08	DT486DX-33C U.S. 4M 3F1.44M 3H50MB
523873-09	DT486DX-33C U.S. 4M 3F1.44M 3H100MB
523873-10	DT486DX-33C U.S. 4M 3F1.44M 3H200MB
363736-01	BOX PACKING
363735-01	FOAM SUPPORT
369261-01	LABEL PACKING BOX DT486DX-33C
364711-06	MAIN ASSY DT486DX-33C 2MB 110V UNIT
390698-01	1M SIMM MODULE
394438-01	DRIVE FLOPPY DISK ASSY 1.44M 3.5"
311839-01	DRIVE HARD DISK 50MB/19MS
311840-01	DRIVE HARD DISK 100MB/19MS
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316585-08	LABEL HDD TYPE #26 FOR 52MB
316585-09	LABEL HDD TYPE #27 FOR 105MB
316585-07	LABEL HDD TYPE #47 FOR 202MB
325090-04	SEAL WARRANTY ON UNIT CASE
368084-01	SEAL TAMPER EVIDENT ON BOX FLAPS
369256-01	LABEL UPC DT486DX-33C 2M
369256-02	LABEL UPC DT486DX-33C 2M 3FI.44M
369256-03	LABEL UPC DT486DX-33C 2M 3F1.44M 3H50MB
369256-04	LABEL UPC DT486DX-33C 2M 3F1.44M 3H100MB
369256-05	LABEL UPC DT486DX-33C 2M 3F1.44M 3H200MB
369256-06	LABEL UPC DT486DX-33C 4M
369256-07	LABEL UPC DT486DX-33C 4M 3F1.44M
369256-08	LABEL UPC DT486DX-33C 4M 3F1.44M 3H50MB
369256-09	LABEL UPC DT486DX-33C 4M 3F1.44M 3H100MB
369256-10	LABEL UPC DT486DX-33C 4M 3F1.44M 3H200MB

SHIP ASSY DT486SX-20A EUROPE

523874-01	DT486SX-20 2M
523874-02	DT486SX-20 2M 3F1.44M

SHIP ASSY DT486SX-20A EUROPE CONTINUED

523874-03	DT486SX-20 2M 3F1.44M 3H50MB
523874-04	DT486SX-20 2M 3F1.44M 3H100MB
523874-05	DT486SX-20 2M 3F1.44M 3H200MB
523874-06	DT486SX-20 4M
523874-07	DT486SX-20 4M 3F1.44M
523874-08	DT486SX-20 4M 3F1.44M 3H50MB
523874-09	DT486SX-20 4M 3F1.44M 3H100MB
523874-10	DT486SX-20 4M 3F1.44M 3H200MB
363736-01	BOX PACKING
363735-01	FOAM SUPPORT
364711-03	MAIN ASSY DT486SX-20A 2MB 220V UNIT
390698-01	1M SIMM MODULE
394438-01	DRIVE FLOPPY DISK ASSY 1.44M 3.5"
311839-01	DRIVE HARD DISK 50MB/19MS
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316585-09	LABEL HDD TYPE #27 FOR 105MB
316585-07	LABEL HDD TYPE #47 FOR 202MB
325090-04	SEAL WARRANTY ON UNIT CASE
368084-01	SEAL TAMPER EVIDENT ON BOX FLAPS

SHIP ASSY KEYBOARD DT386-33C/486SX-20A/486-33C DOS 5.0

585551-01	KEYBOARD SHIP ASSY U.S.
585551-02	KEYBOARD SHIP ASSY CN
585551-03	KEYBOARD SHIP ASSY UK
585551-04	KEYBOARD SHIP ASSY GR
585551-05	KEYBOARD SHIP ASSY FR
585551-06	KEYBOARD SHIP ASSY IT
585551-07	KEYBOARD SHIP ASSY SP
585551-08	KEYBOARD SHIP ASSY SG
585551-09	KEYBOARD SHIP ASSY SF
585551-10	KEYBOARD SHIP ASSY AU
585551-11	KEYBOARD SHIP ASSY NR
585551-12	KEYBOARD SHIP ASSY SD
585551-13	KEYBOARD SHIP ASSY FN
585551-14	KEYBOARD SHIP ASSY NE
585551-15	KEYBOARD SHIP ASSY DN
585551-16	KEYBOARD SHIP ASSY BF
585551-17	KEYBOARD SHIP ASSY BD
585551-18	KEYBOARD SHIP ASSY AL
585551-19	KEYBOARD SHIP ASSY CEL
585551-20	KEYBOARD SHIP ASSY PG
363783-01	BOX PACKING
312473-01	KEYBOARD UK
312473-02	KEYBOARD U.S.
312473-03	KEYBOARD GR
312473-04	KEYBOARD IT
312473-05	KEYBOARD FR
312473-06	KEYBOARD SP
312473-07	KEYBOARD SG
312473-08	KEYBOARD DN
312473-09	KEYBOARD NR
312473-10	KEYBOARD SD/FN
312473-12	KEYBOARD SF
312473-13	KEYBOARD BE

Commodore International Spare Parts List

Shipping Assemblies

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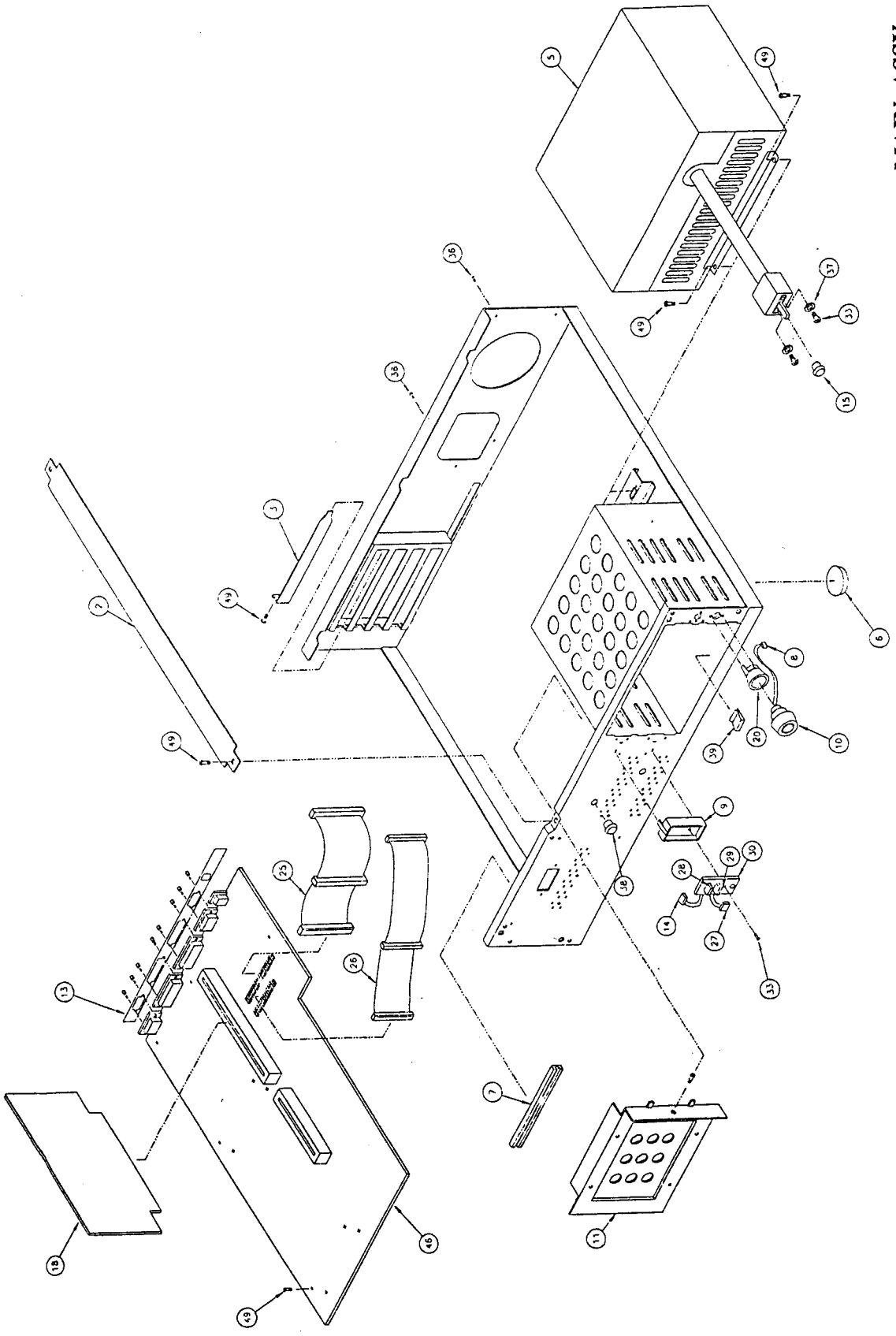
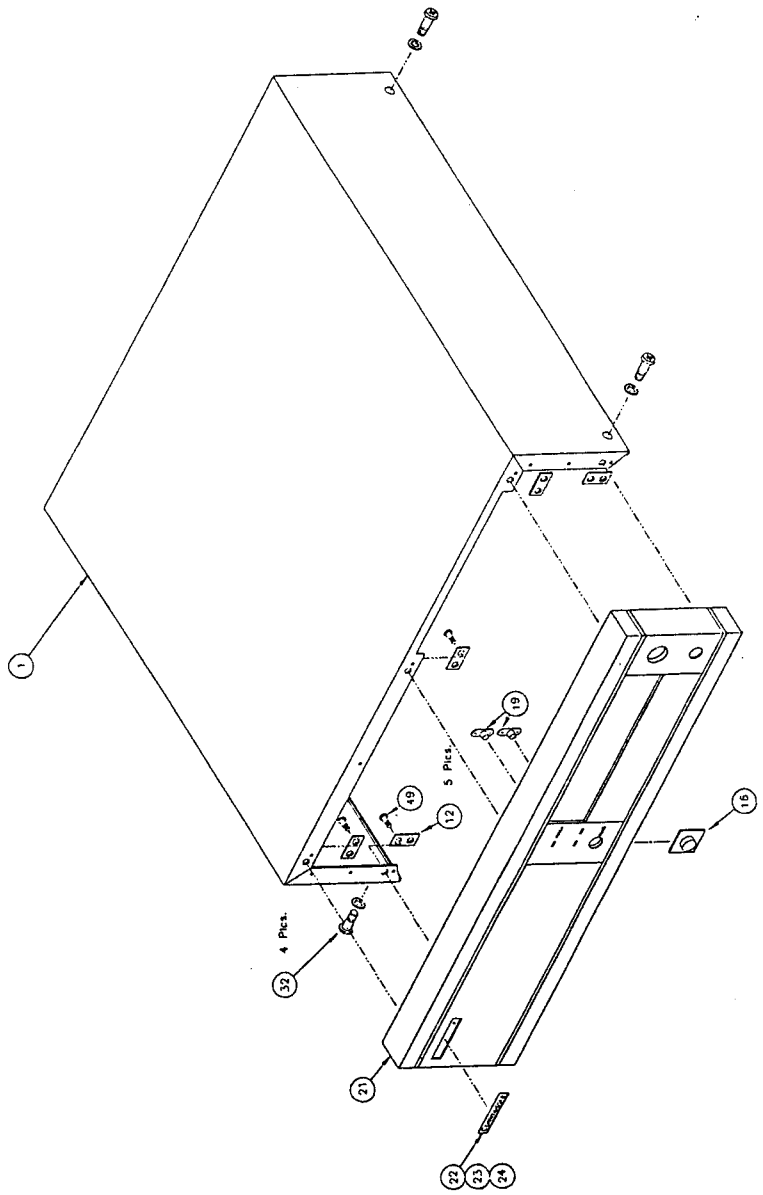
SHIP ASSY KEYBOARD DT386-33C/486SX-20A/486-33C CONTINUED	
318172-01	SPACER
903508-18	CORD POWER U.S.
903508-01	CORD POWER VDE
903508-07	CORD POWER BSI
903508-02	CORD POWER SEV
903508-03	CORD POWER SAA
318365-04	CARD WARRANTY 1 YR U.S.
318882-02	CARD WARRANTY CN
368014-01	CARD WARRANTY AL
312341-02	CARD DISK EXCHANGE
318556-02	CARD DISK EXCHANGE
318896-04	AGREEMENT SOFTWARE LICENSE
318876-01	LIST SERVICE CENTER AL
368084-01	SEAL TAMPER EVIDENT ON BOX FLAPS
369259-01	LABEL UPC US/CN
364254-01	MANUAL ASSY MS DOS 5.0 ENGLISH
364254-02	MANUAL ASSY MS DOS 5.0 GERMAN
364254-03	MANUAL ASSY MS DOS 5.0 FRENCH
364254-04	MANUAL ASSY MS DOS 5.0 ITALIAN
364254-05	MANUAL ASSY MS DOS 5.0 SPANISH
364254-06	MANUAL ASSY MS DOS 5.0 SWEDISH
364254-07	MANUAL ASSY MS DOS 5.0 DUTCH
364254-08	MANUAL ASSY MS DOS 5.0 PORTUGUESE
364247-01	SOFTWARE ASSY MS DOS 5.0 3.5" ENGLISH
364247-02	SOFTWARE ASSY MS DOS 5.0 3.5" GERMAN
364247-03	SOFTWARE ASSY MS DOS 5.0 3.5" FRENCH
364247-04	SOFTWARE ASSY MS DOS 5.0 3.5" ITALIAN
364247-05	SOFTWARE ASSY MS DOS 5.0 3.5" SPANISH
364247-06	SOFTWARE ASSY MS DOS 5.0 3.5" SWEDISH
364247-07	SOFTWARE ASSY MS DOS 5.0 3.5" DUTCH
364247-08	SOFTWARE ASSY MS DOS 5.0 3.5" PORTUGUESE
364714-01	SOFTWARE ASSY DT386-33C/486SX-20A/486-33CENGLISH
364714-02	SOFTWARE ASSY DT386-33C/486SX-20A/486-33CGERMAN
364714-03	SOFTWARE ASSY DT386-33C/486SX-20A/486-33C FRENCH
364714-04	SOFTWARE ASSY DT386-33C/486SX-20A/486-33C ITALIAN
366981-01	LABEL BOX COUNTRY SPECIFIC U.S.
366981-02	LABEL BOX COUNTRY SPECIFIC CN
366981-03	LABEL BOX COUNTRY SPECIFIC UK
366981-04	LABEL BOX COUNTRY SPECIFIC FR
366981-05	LABEL BOX COUNTRY SPECIFIC GR
366981-06	LABEL BOX COUNTRY SPECIFIC IT
366981-07	LABEL BOX COUNTRY SPECIFIC SP
366981-08	LABEL BOX COUNTRY SPECIFIC SG
366981-09	LABEL BOX COUNTRY SPECIFIC SF
366981-10	LABEL BOX COUNTRY SPECIFIC AU
366981-11	LABEL BOX COUNTRY SPECIFIC NR
366981-12	LABEL BOX COUNTRY SPECIFIC SD
366981-13	LABEL BOX COUNTRY SPECIFIC FN
366981-14	LABEL BOX COUNTRY SPECIFIC NE
366981-15	LABEL BOX COUNTRY SPECIFIC DN
366981-16	LABEL BOX COUNTRY SPECIFIC BF
366981-17	LABEL BOX COUNTRY SPECIFIC BD
366981-18	LABEL BOX COUNTRY SPECIFIC AL
366981-19	LABEL BOX COUNTRY SPECIFIC CEL
366981-20	LABEL BOX COUNTRY SPECIFIC PO

SOFTWARE SUB ASSY DT386-33C/486-20A/486-33C MS DOS 5.0	
364714-01	S/W ASSY DT386-33C/486-20A/486-33C MS DOS 5.0 ENG
364714-02	S/W ASSY DT386-33C/486-20A/486-33C MS DOS 5.0 GR
364714-03	S/W ASSY DT386-33C/486-20A/486-33C MS DOS 5.0 FR
364714-04	S/W ASSY DT386-33C/486-20A/486-33C MS DOS 5.0 IT
368108-01	GUIDE OPERATION COMMODORE PC GERMAN
368109-01	GUIDE OPERATION COMMODORE PC FRENCH
368110-01	GUIDE OPERATION COMMODORE PC ITALIAN
368081-02	GUIDE OPERATION PC ENOLISH SUB FOR 368108-01 & 368110-01
368779-01	GUIDE INTRO DT386/486/486SX-20A/486-33C GERMAN
368778-01	GUIDE INTRO DT386/486/486SX-20A/486-33C FRENCH
368777-01	GUIDE INTRO DT386/486/486SX-20A/486-33C ITALIAN
368728-01	GUIDE INTRO ENGLISH SUB FOR ABOVE INTRO GUIDES
367961-01	DISK ASSY UTILITIES 3.5" ENGLISH
367962-01	DISK ASSY UTILITIES 3.5" ENGLISH
318724-01	HOLDER DISK 3.5"
318611-01	SEAL DISK
369000-01	LABEL PART NUMBER ENGLISH
369001-01	LABEL PART NUMBER FRENCH
369002-01	LABEL PART NUMBER ITALIAN
369003-01	LABEL PART NUMBER GERMAN
318757-15	SHRINK WRAP AS REQUIRED

MAIN ASSY
SHEET 1 of 2



MAIN ASSY
SHEET 2 of 2



Commodore International Spare Parts List

Major Assemblies

Commodore part numbers are provided for refercnce only and do not indicate the avallability of spare parts from Commodore industry standard parts (Resistors,Capacitors,Connectors) should be secured locally. Part number information may vary according to country, some parts may not be available in all countries. See section 3 for Dis-assembly diagrams.

MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C		
364711-01	MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C	
364711-02	MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C	
364711-03	MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C	
364711-04	MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C	
364711-05	MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C	
364711-06	MAIN ASSEMBLY DT386-33C/486SX-20A/486-33C	
394416-02	SYSTEM UNIT UPPER COVER	#1
394415-01	SYSTEM UNIT BRACE	#2
394414-01	SLOT BRACKET	#3
394413-02	UNIT CHASSIS	
364788-01	POWER SUPPLY 110V	#5
394411-01	FOOT PAD	#6
394410-01	GUIDE ADD ON CARD	#7
394426-02	HARNESS KL	#8
394427-01	LED PANEL	#9
394428-01	KEY LOCK SWITCH	#10
394408-01	PLATFORM VERTICAL HDD	#11
394407-01	PLATE GROUNDING	#12
394406-01	PLATE SHIELDING I/O PARTS	#13
394431-01	BUTTON POWER	#15
394429-01	BUTTON RESET	#16
394434-01	PCB RESET	
364789-01	CARD VERTICAL	#18
394432-01	LENS LED	#19
394433-01	KEYLOCK SWITCH HOUSING	
364675-01	BEZEL FRONT	#20
363755-03	NAMEPLATE 386-33C	#22
363755-12	NAMEPLATE 486SX-20	#23
363755-05	NAMEPLATE 486-33C	#24
394403-01	CABLE FLOPPY DISK DRIVE	#25
394402-01	CABLE HARD DISK DRIVE	#26
394422-02	HARNESS HARD DISK DRIVE	
394423-01	LED GREEN SE3621BT	#27
394424-01	LED YELLOW SE3631BT	#28
394425-01	SWITCH TACT SPST-NO 4 PIN	
611000-04	SCREW BUNC #6-32 X 6 , 35L	
611000-05	SCREW ISOB 4 X 6L	#32
611000-06	SCREW BTB 3 X 6L	#33
611000-07	SCREW ISOB 3 X 6L	
611000-08	SCREW FUNC #6-32 X 6, 35L	
611000-09	SCREW ISOH (S) 3 X 6L	
394420-01	WASHER PVC	
394419-01	BUSHING SNAP SB-1316	#38
394421-01	CLAMP FLAT CABLE	#39
391419-01	IC EPROM BIOS OEM 386 DT V3.15F	
391418-01	IC EPROM BIOS OEM 486 DT V3.15C2	
391417-01	IC EPROM BIOS OEM 486 DT V3.15C3	
391427-01	IC GAL 16V8-7 20-DIP PS486VCR2 U48	
391428-01	IC GAL 16V8-7 20-DIP PS486VCR2 U61	
391429-01	IC GAL 16V8-7 20-DIP PS486XVR0 U49	
390273-03	OSCILLATOR 40MHZ	
390273-04	OSCILLATOR 66MHZ	
364740-01	MOTHERBOARD 2MB W/O MICRO, CACHE	#48
364741-01	CARD 386 DC (386 CACHE CARD)	
364742-01	CARD 486 DB (DUMMY CARD)	
364743-01	CARD 486 DC (486 CACHE CARD)	
369263-01	LABEL RATING MADE IN TAIWAN U.S.	
369263-02	LABEL RATING MADE IN TAIWAN EUROPE	

MAIN ASSY DT386-33C/486SX-20A/486-33C		
369264-01	LABEL MADE IN TAIWAN U.S. DT486SX-20	
369264-02	LABEL MADE IN TAIWAN EURO DT486SX-20	
369265-01	LABEL MADE IN TAIWAN U.S. DT486DX-33C	
369265-02	LABEL MADE IN TAIWAN EURO DT486DX-33C	
390486-02	IC MICROPROCESSOR 386DX-33C PGA	
391361-01	IC MICROFROCESSOR 486SX-20 PGA	
390748-02	IC MICROPROCESSOR 486DX-33 PGA	
364790-01	SCREW ISOH M3 X 6L	#49

Commodore International Spare Parts List
PCB Components
PCB Assembly

Commodore part numbers are provided for reference only and do not indicate the availability of spare parts from Commodore industry standard parts (Resistors,Capacitors,Connectors) should be secured locally. Part number information may vary according to country, some parts may not be available in all countries.

PCB ASSEMBLY DT 386/486	
609315-004	IC M5105 QFP 100P A3 SUPER I/O
609315-005	IC 82C331/82344 QFP 160P ISA BUS CTRL
609315-006	IC 82C332/82345 QFP 128P DATA BUFFER
609315-007	IC 82C330/82346 QFP 128P SUBSYS CTRL
609315-008	IC TVGA 8900C QFP 144P TRIDENT CTRL
609315-009	IC TCK9002M 20P VIDEO CLOCK CHIP
609315-010	IC 176/476-66 PLCC 44P RAMDAC
609315-011	IC 80C42C-267 DIP 40P AWARD KB BIOS4.11
609315-012	IC 80C42-261 DIP 40P AWARD KB BIOS 4.15
609315-013	IC DRAM 256X4 80NS SOJ 26P 44C256J-8
609315-014	SIMM 1MX1/9 80NS 30N9 TM024EA09-80
609315-015	SIMM 1MX1/9 80NS 30N9 MCM91000S-80
609315-016	SIMM 1MX1/9 80NS 30N9 HYM91000S-80
609315-017	IC TTL 7407 SO 14P HEX BFR/DRVR
609315-018	IC TTL 74LS244 SOL 20P OCT BUF/LN DRV
609315-019	IC TTL 74LS245 SOL 20P OCT BUS XCVR
609315-020	IC TTL 74F00 SO 14P QUAD 2T/P P-NAND
609315-021	IC TTL 74F04 SO 14P HEX INVRT
609315-022	IC TTL 74F08 SO 14P QUAD 2T/P P-AND
609315-023	IC TTL 74F32 SO 14P QUAD T/P P-OR
609315-024	IC TTL 74F74 SO 14P DUAL FLIP-FLOP
609315-025	IC TTL IC 74F125 SO 14P QUAD BUS BFR
609315-026	IC TTL 74F373 SOL 20P OCT D-TRANS
609315-027	IC TTL 74ACT11244 SOL 24P OCT BFR/LN DRV
609315-028	IC 1488/75188 SO 14P QUAD LINE DRV
609315-029	IC 1489/75189 SO 14P QUAD LINE RECVR
609315-030	IC TL431 TO-92 3P
609315-031	LABEL, EPROM/BIOS PS386V AW 3.15F
609315-033	IC PAL 16L8R W/ LABEL PS486VC U36 R0
609315-034	IC GAL 16V8-7 W/LABEL PS486VC U50 R4
609315-035	IC GAL 16V8-7 W/ LABEL PS386V U60 R5
609315-039	RES CF CHIP 0 OHM +-5% 1/8W 1206
609315-040	RES CF CHIP 10 OHM +-5% 1/8W 1206
609315-041	RES CF CHIP 100 OHM +-5% 1/8W 1206
609315-042	RES CF CHIP 1K OHM +-5% 1/8W 1206
609315-043	RES CF CHIP 10K OHM +-5% 1/8W 1206
609315-044	RES CF CHIP 10M OHM +-5% 1/8W 1206
609315-045	RES CF CHIP 150 OHM +-5% 1/8W 1206
609315-046	RES CF CHIP 2K OHM +-5% 1/8W 1206
609315-047	RES CF CHIP 220 OHM +-5%1/8W 1206
609315-048	RES CF CHIP 22M +-5% 1/8W 1206
609315-049	RES CF CHIP 27 OHM +-5% 1/8W 1206
609315-050	RES CF CHIP 33 OHM +-5% 1/8W 1206
609315-051	RES CF CHIP 330 OHM +-5% 1/8W 1206
609315-052	RES CF CHIP 360 OHM +-5% 1206
609315-053	RES CF CHIP 47 OHM +-5% 1/8W 1206
609315-054	RES CF CHIP 4.7 OHM +-5% 1/8W 1206
609315-055	RES CF CHIP 560 OHM +-1% 1/8W 1206
609315-056	RES CF CHIP 62 OHM +-5% 1/8W 1206
609315-057	RES CF CHIP 620 OHM +-5% 1206
609315-058	RES CF CHIP 8.2K OHM +-5% 1/8W 1206
609315-059	RES ARRAY 10K OHM 1/8 +-5% 8P/7S
609315-060	RES ARRAY 10K OHM 1/8W +-5% 9P/8S
609315-061	RES ARRAY 10K OHM 1/8W +-5% 10P/9S

PCB ASSEMBLY DT386/486 CONTINUED	
609315-061	RES ARRAY 10K OHM 1/8W +-5% 10P/9S
609315-062	CAP MONO CHIP 10P 50V +80%-20% 1206
609315-063	CAP MONO CHIP 100P 50V +80%-20% 1206
609315-064	CAP MONO CHIP 1000P 50V +80%-20% 1206
609315-065	CAP MONO .01U 50V +80%-20% 1206
609315-066	CAP MONO CHIP .1U 50V +80%-20% 1206
609315-067	CAP MONO CHIP .012U 50V +-5% 1206
609315-068	CAP MONO CHIP 15P 50V +80%-20% 1206
609315-069	CAP MONO CHIP 150P 50V +80%-20% 1206
609315-070	CAP MONO CHIP .015U 50V +-5% 1206
609315-071	CAP MONO CHIP 180P 50V +-5% 1206
609315-072	CAP MONO CHIP 180P 50V +80%-20% 1206
609315-073	CAP MONO CHIP 2200P 50V +80%-20% 1206
609315-074	CAP MONO CHIP 27P 50V +80%-20% 1206
609315-075	CAP MONO CHIP 330P 50V +80%-20% 1206
609315-076	CAP MONO CHIP .033U 50V +-5% 1206
609315-077	CAP MONO CHIP 47P 50V +80%-20% 1206
609315-078	CAP MONO CHIP 470P 50V +80%-20%
609315-079	CAP MONO CHIP 4700P 50V +80%-20%
609315-080	CAP MONO CHIP .047U 50V +80%-20% 1206
609315-081	CAP TAN 10U 25V +-20%
609315-082	CAP TAN CHIP 10U 25V +-20% TAJ-D
609315-083	CAP TAN 10U 35V +-20%
609315-084	CAP TAN CHIP 2.2U 25V +-20% TAJ-C
609315-085	CAP ELEC 22U 50V +-20% SA 2.54MM
609315-086	TRANS 2N3904 TD-92
609315-087	DIODE IN4148
609315-088	DIODE IN4148 SOT23
609315-089	DIODE IN5817
609315-090	DIODE ZENNER 5.1V HZ5-C2
609315-093	INDUCTOR BEAD SMT HF50ACB453215
609315-094	CORE RT-12-16-8.5-F
609315-095	INDUCTOR 4.7UH NLF453232T-4R7M
609315-096	EMI FILTER ZJSR5101-221
609315-097	BUZZER QMX-05 S/C
609315-098	BATTERY 3.6V GB50H-3X
609315-099	CRYSATL 32.768 KHZ/F
609315-100	CRYSTAL 24 MHZ/F
609315-101	CRYSTAL 32.768 KHZ/F
609315-102	OSC TTL 14.31818MHZ
609315-103	OSC TTL 16MHZ
609315-104	OSC TTL 40MHZ
609315-107	TUBE, SHRINK #2.5X20MM
609315-108	FUSE 5A 125V LEAD
609315-109	JUMPER WIRE #22 5MM
609315-110	JUMPER WIRE #22 11MM
609315-114	HARNESS POWER
609315-116	HARNESS FOR TRANSFER
609315-117	SOCKET 4P ROUND PIN
609315-118	SOCKET 20P
609315-119	SOCKET 40P
609315-120	SOCKET CHIP CARRY PLCC 44P
609315-121	SOCKET CHIP CARRY PGA 121P
609315-122	SOCKET CHIP CARRY PGA 132P
609315-123	SOCKET CHIP CARRY PGA 168P

Commodore International Spare Parts List

PCB Components

PCB Assembly

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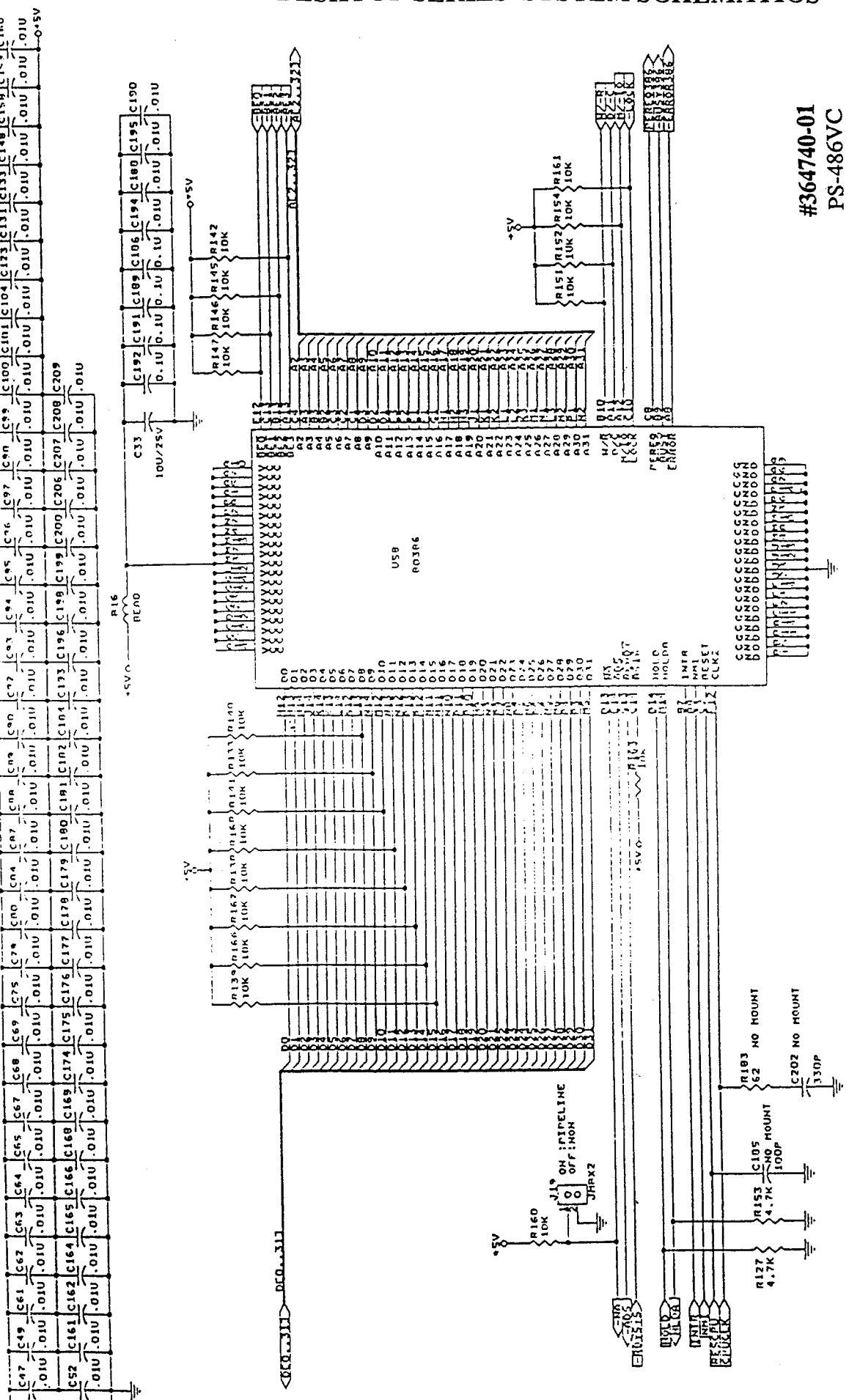
PCB ASSEMBLY DT 386/486	
609315-124	SOCKET, DUAL SIMM 30PX2
609315-125	CONN D 100PF B-B GOLD 0.8UM
609315-126	CONN D 15P F HIGH DENS 90 DEGREE
609315-127	CONN D 25P F 90 DEGREE 747846-4
609315-128	CONN D 9P M 90 DEGREE
609315-129	CONN EDGE 49PX2 3-5UM
609315-130	CONN POWER 12P
609315-131	CONN MINI DIN KYBRD 6P 90 DEGREE SHEILD
609315-132	CONN 6F-5M TRANSFER FOR KYBRD
609315-133	PIN PLUG 2P
609315-134	PIN PLUG 3P
609315-135	PIN PLUG 17PX2
609315-136	PIN PLUG 20PPX2
609315-137	HEADER-1 2P
609315-138	HEADER-1 3P
609315-139	HOUSING JUMPER 2P
609315-140	SWITCH, SNAP 16P/8S
609315-151	SHEILD, FDD 5.25
609315-154	BRACKET 3.5 FDD
609315-159	SCREW BTB 4X6L
609315-161	WASHER, STAR M4 8.5X4.0X0.7
609315-163	SCREW ISOP M3X6L
609315-164	SCREW BUNC #6-32X6.35L
609315-165	SCREW ISOP M3X6L
609315-167	SCREW ISOH M3X6L W/ SPRING WASHER
609315-168	LABEL, PWR RATING & FCC 386-33C
609315-169	LABEL, PWR & FCC DT486SX-20
609315-170	LABEL, PWR & FCC DT486DX-33C
609315-174	GUIDE RAIL FDD
609315-176	LENS, LED 3.5 FDD CHINON
609315-177	PANEL, LED
609315-178	PANEL 3.5 FDD CHINON
609315-179	PANEL, FRONT CBM
609315-180	SHEILD COVER 5.25 X1.7 DISK
609315-181	SHEILD COVER 5.25 X1 DISK
609315-184	BUTTON, EJECT FDD 3.5 CHINON
609315-186	TIES, CABLE
609315-187	SUPPORT LINK SB-0609A
609315-189	BAG, PE T=0.05 600X600MM
609315-191	POLYLON BOTTOM SS400/490/590/600
609315-192	TAPE, PACKING
609315-193	DESICCATIVE 35G
609315-194	LABEL KYBRD AWARD BIOS
609315-195	IBM ROYALTY 386
609315-196	DRIVE, FDD 3.5X1" 1.44MB FZ-357 CBM
609315-210	CABINET, SYSTEM CBM
609315-211	PACKING CBM



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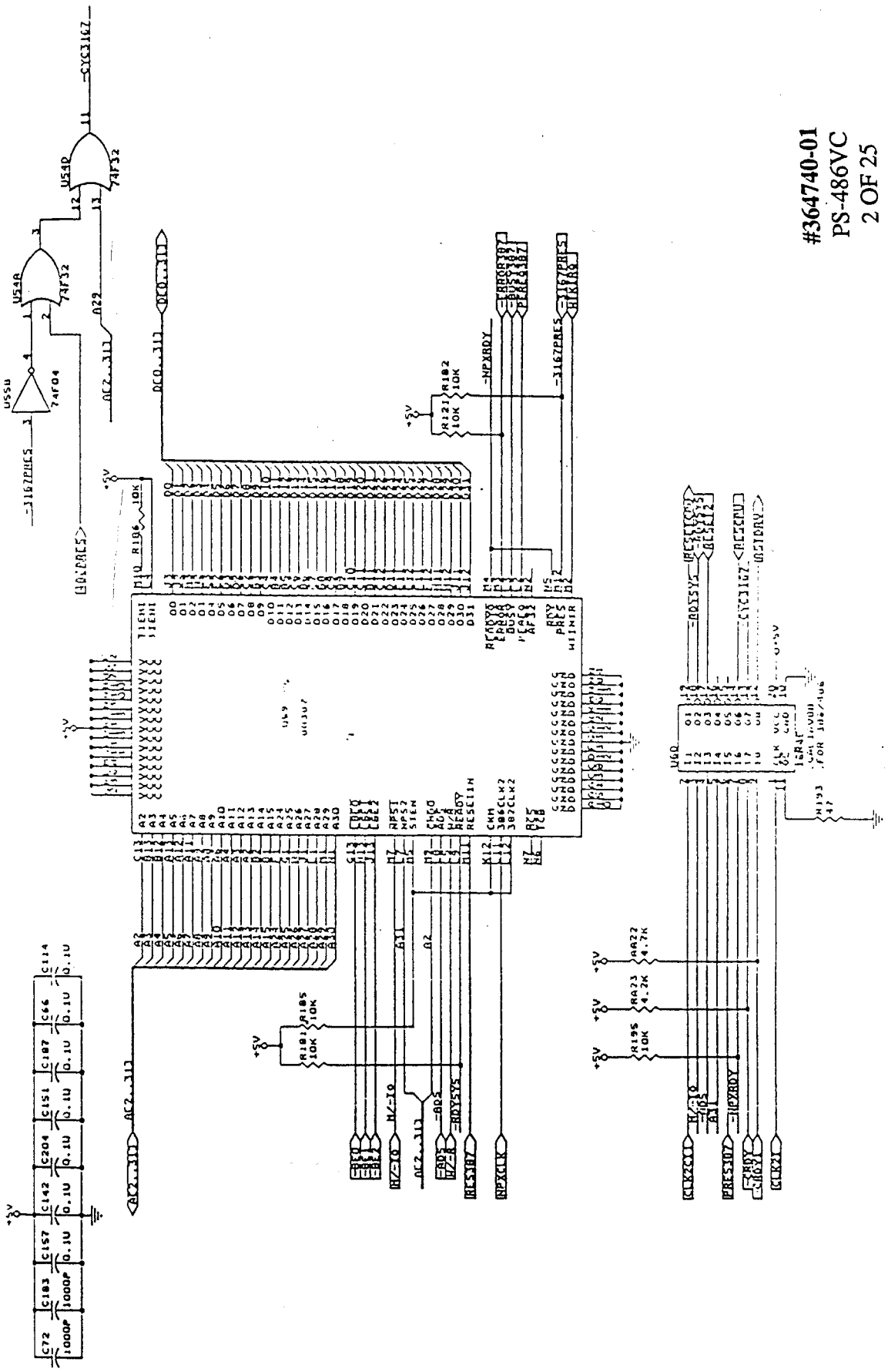

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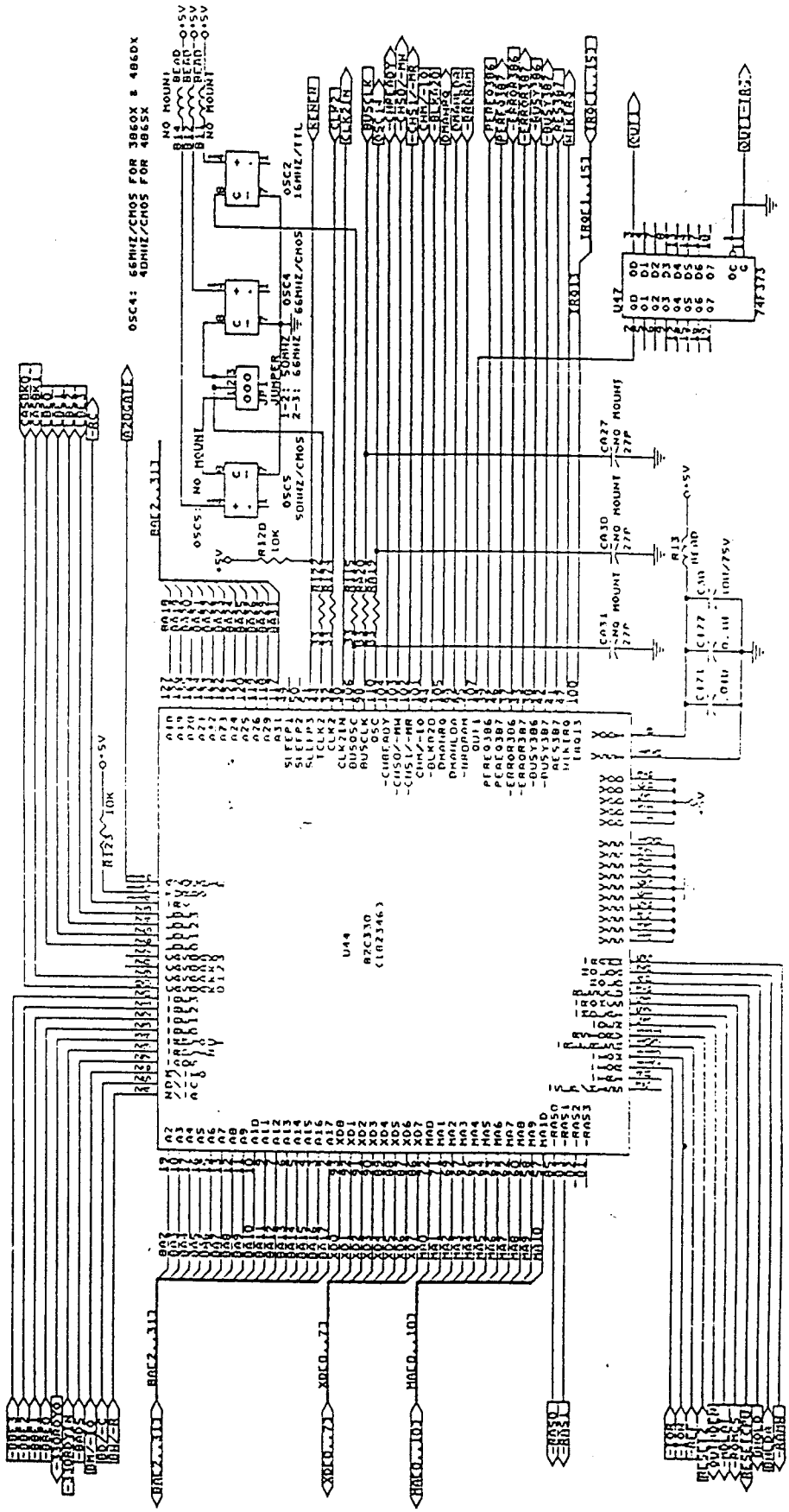

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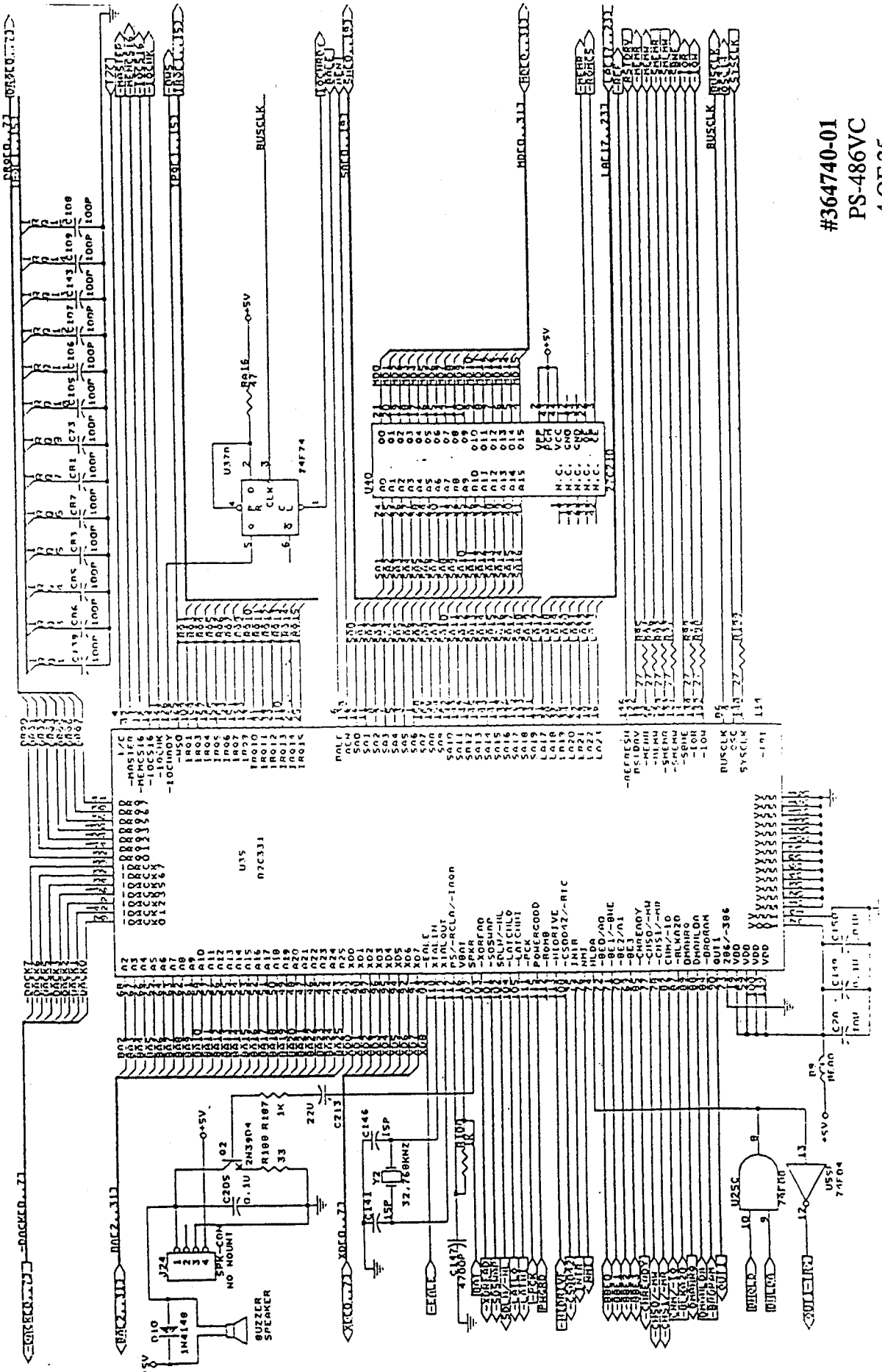

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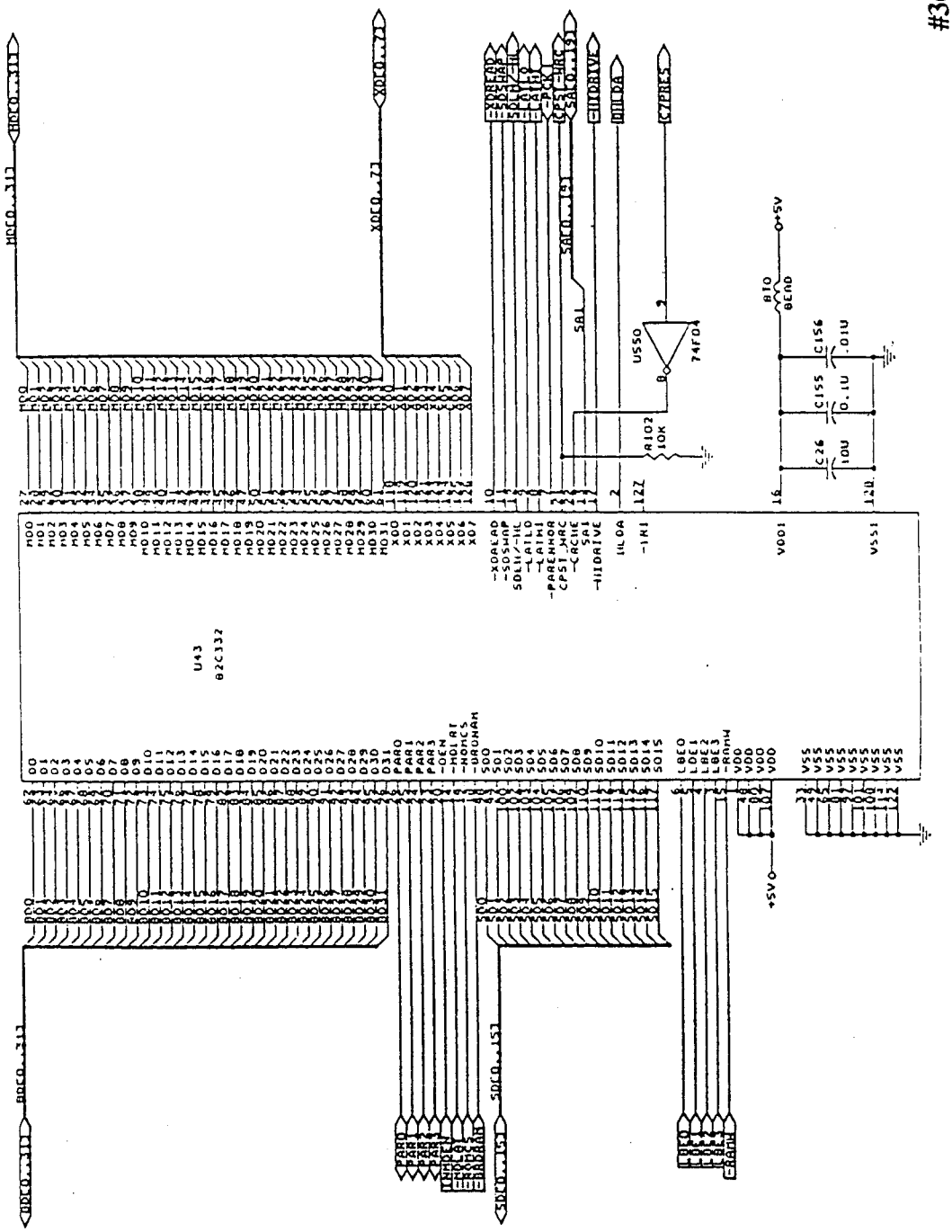

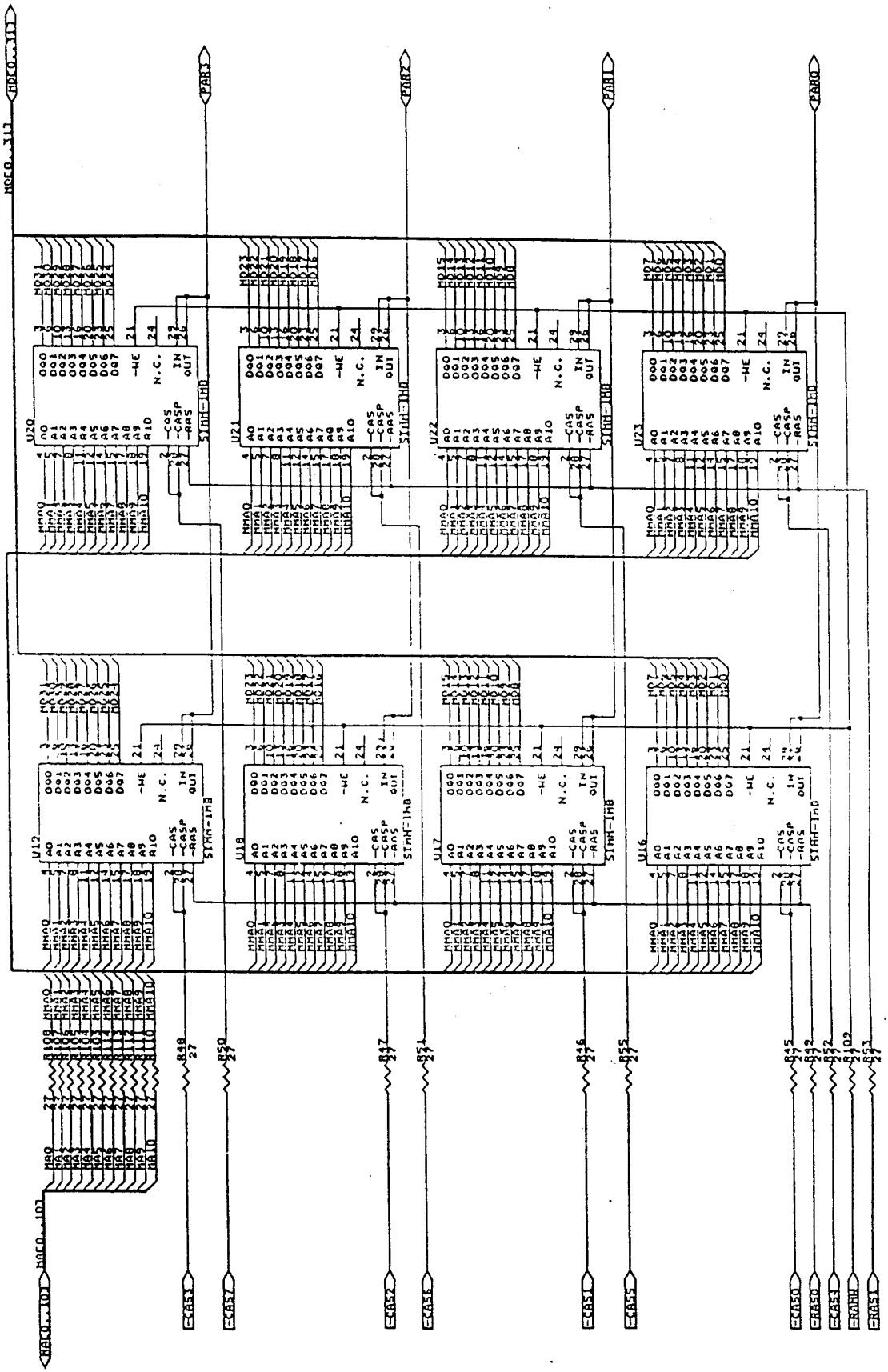

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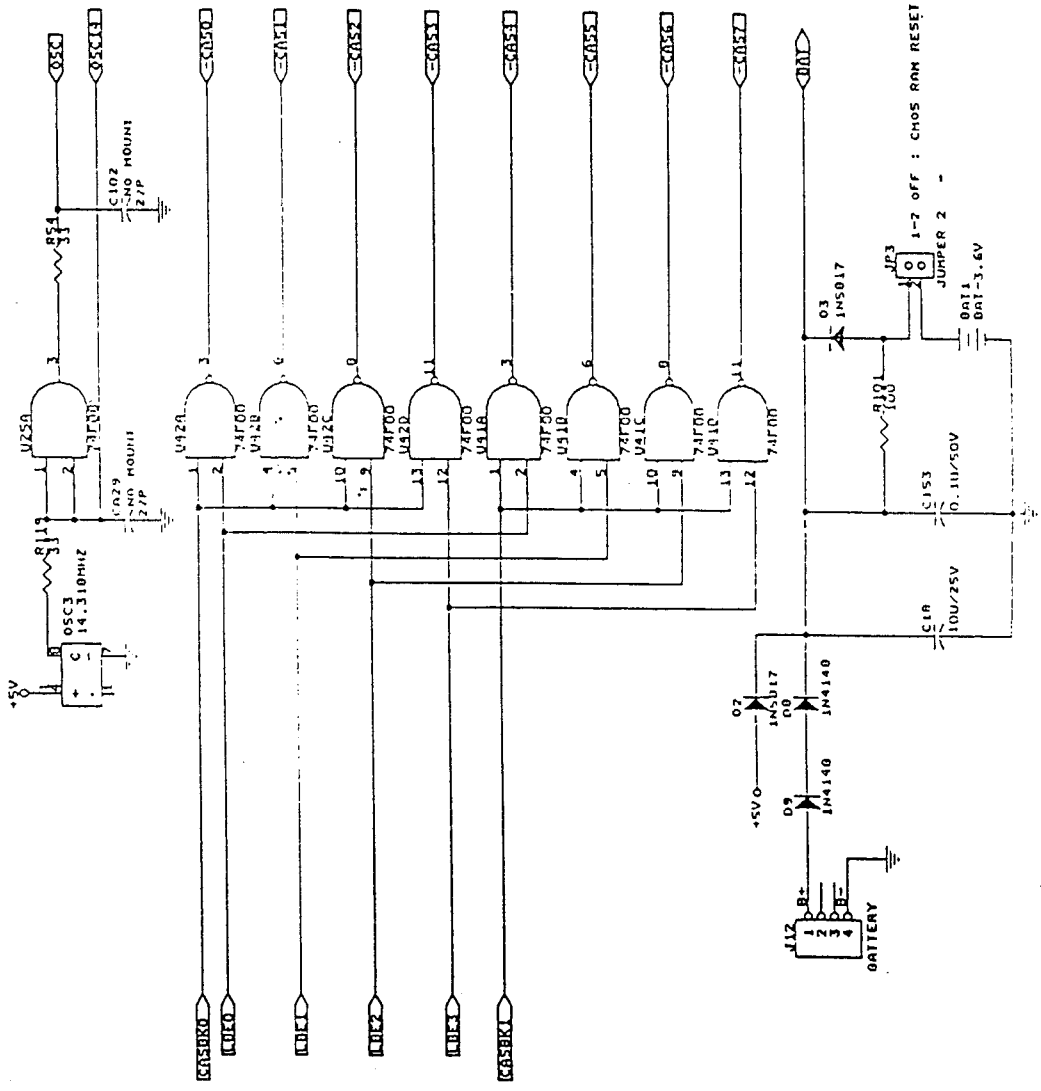
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OSCIN
C102
NO MOUNT
27P
R54
33
U25A
74F00
C129
NO MOUNT
27P
R119
33
OSC3
14.318MHz
+5V
CASBK0
CAS0
CAS1
CAS2
CAS3
CAS4
CAS5
CAS6
CAS7
CASBK1
U42A
U42B
U42C
U42D
U41A
U41B
U41C
U41D
D3
1N5817
JP3
1-2 OFF : CMOS RAM RESET
JUMPER 2
BAT1
BAT-3.6V
R101
100
C153
0.1U/50V
C18
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D7
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D8
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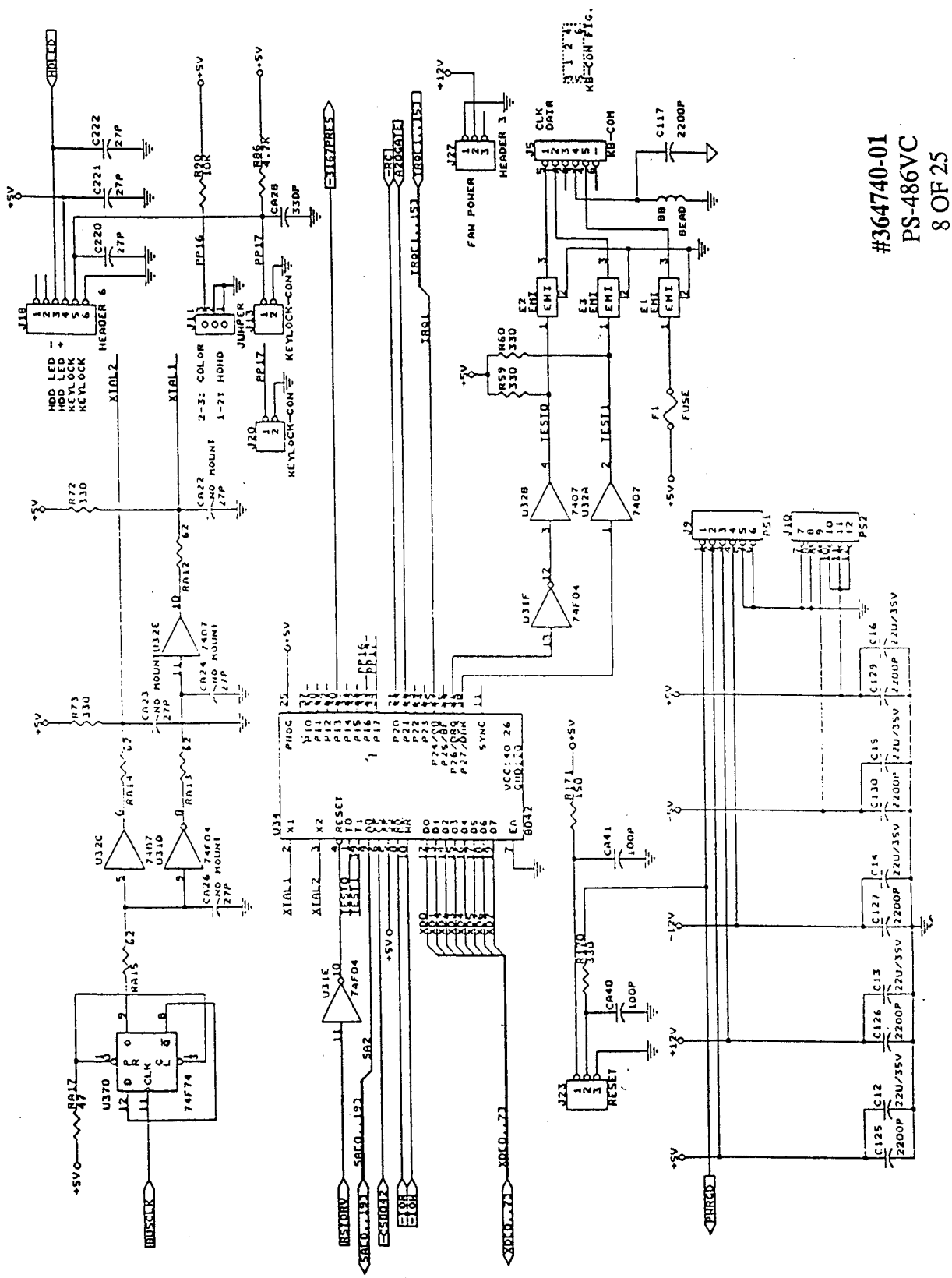
BATTERY



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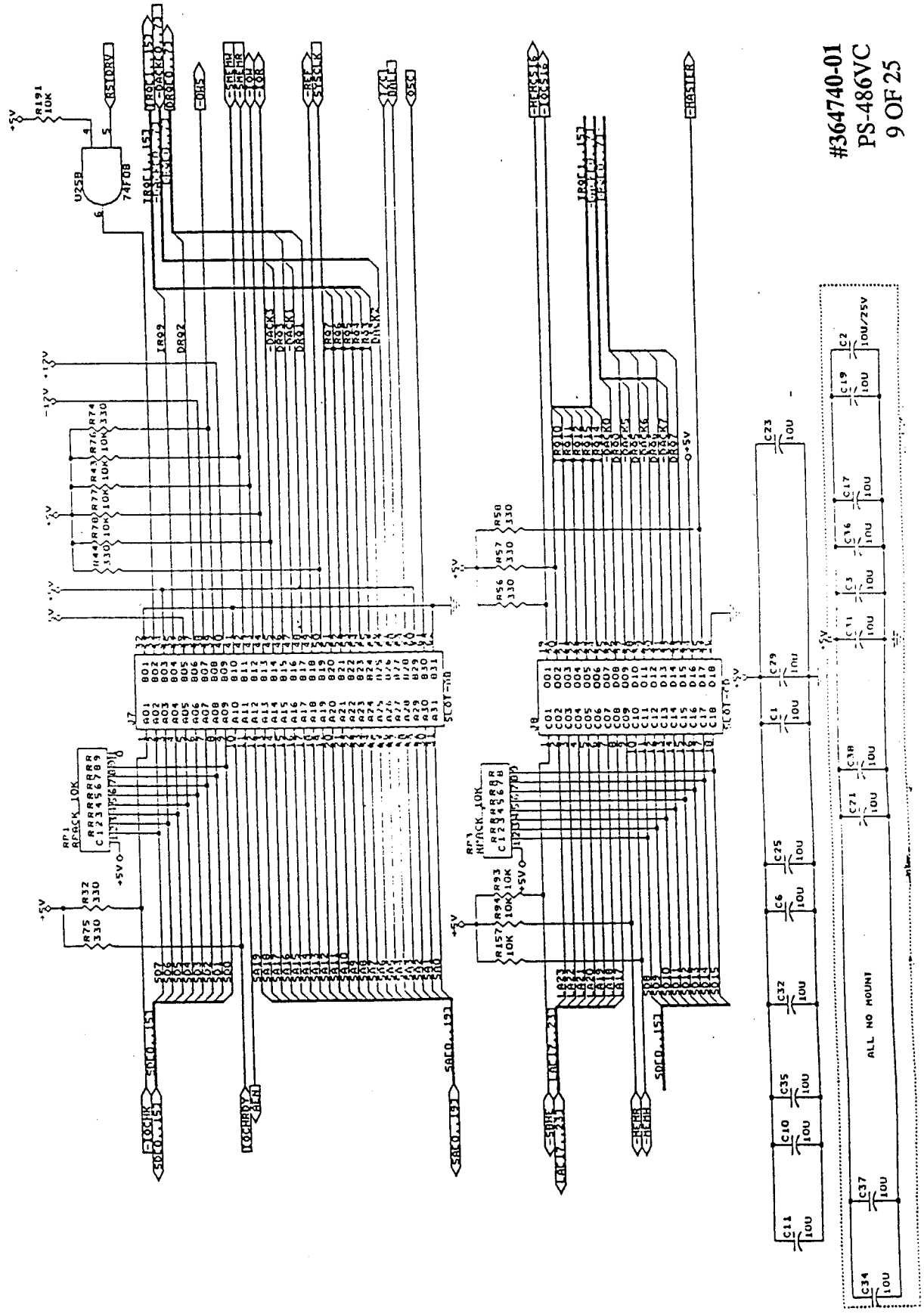
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PS-486VC
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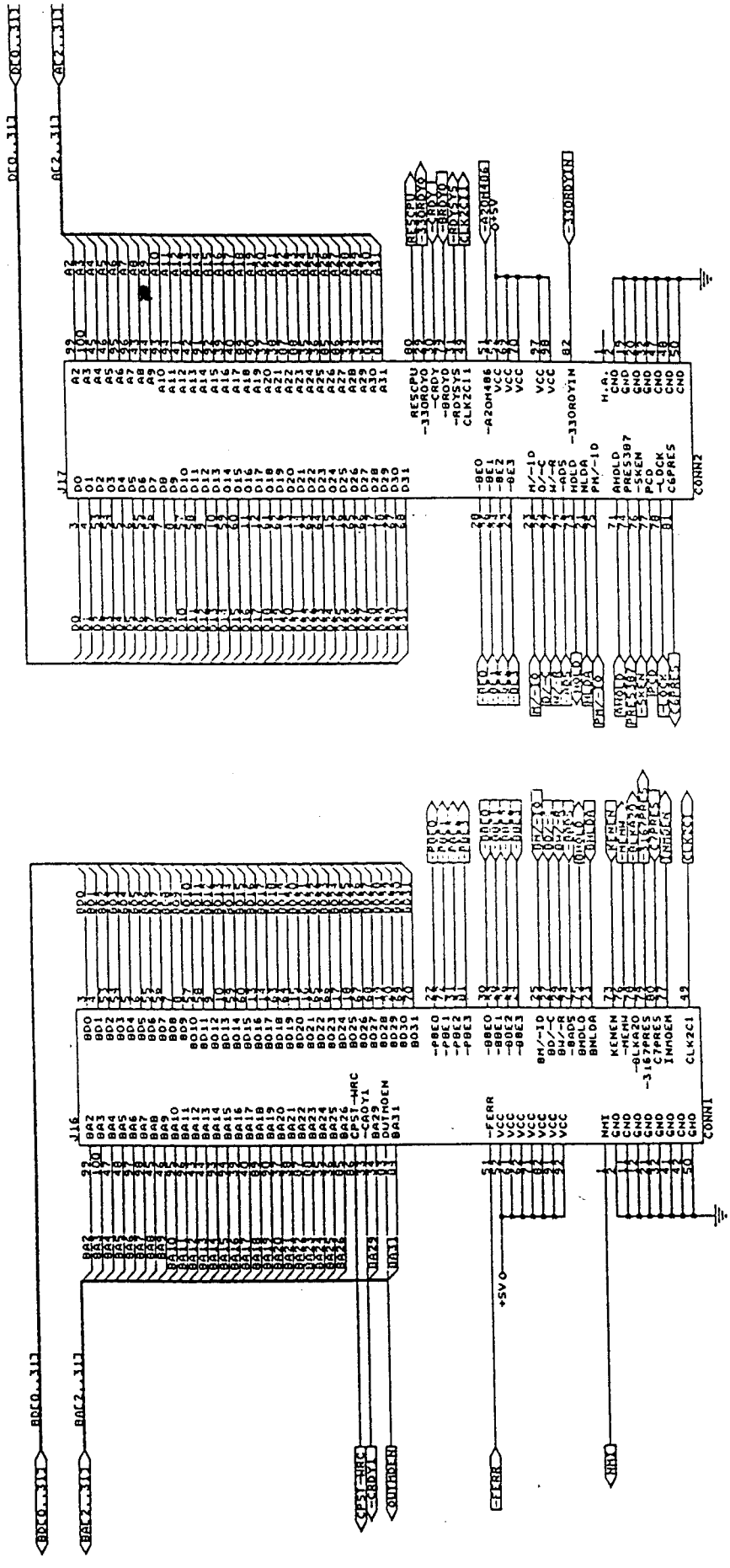
ALL NO MOUNT



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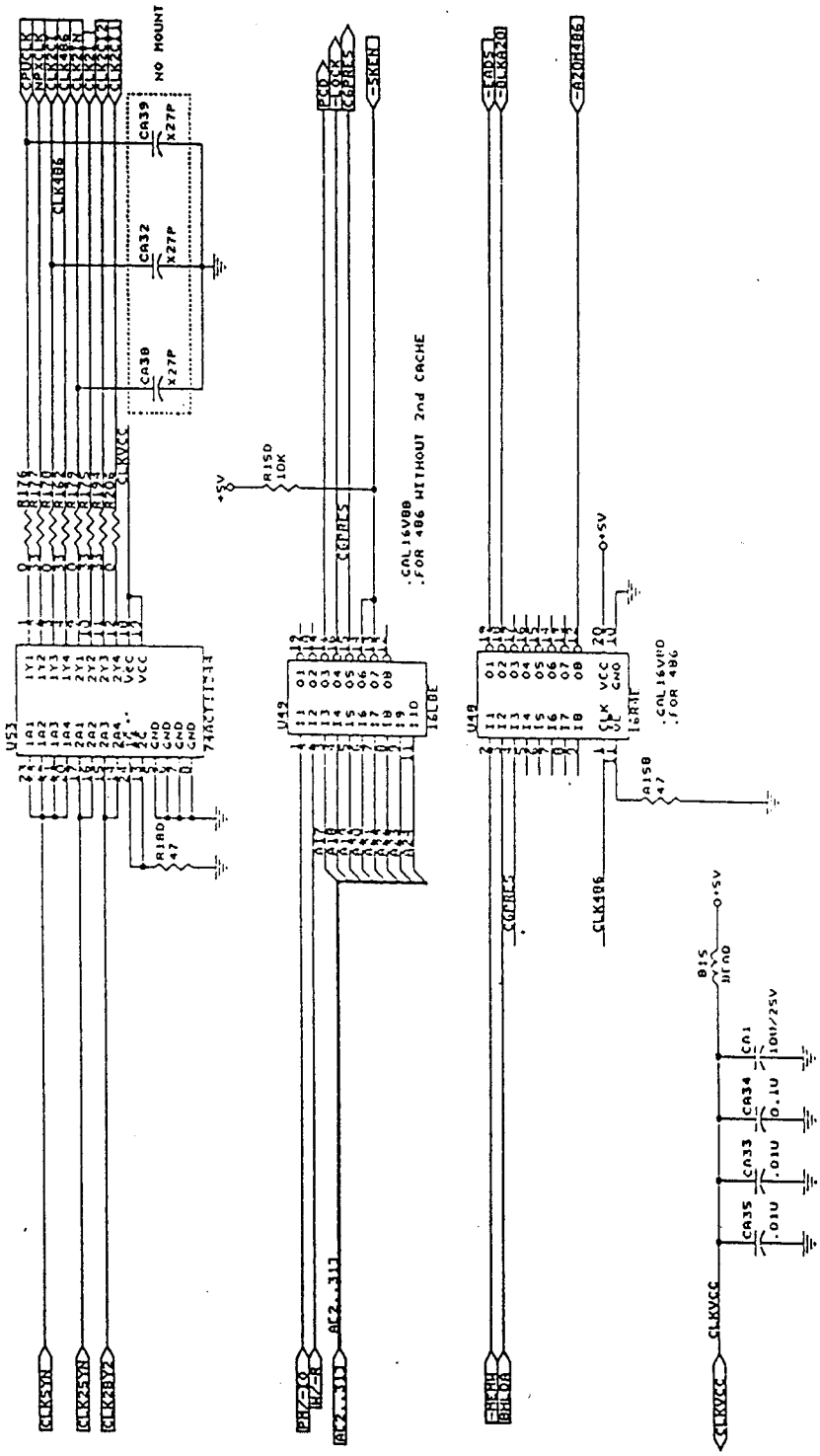

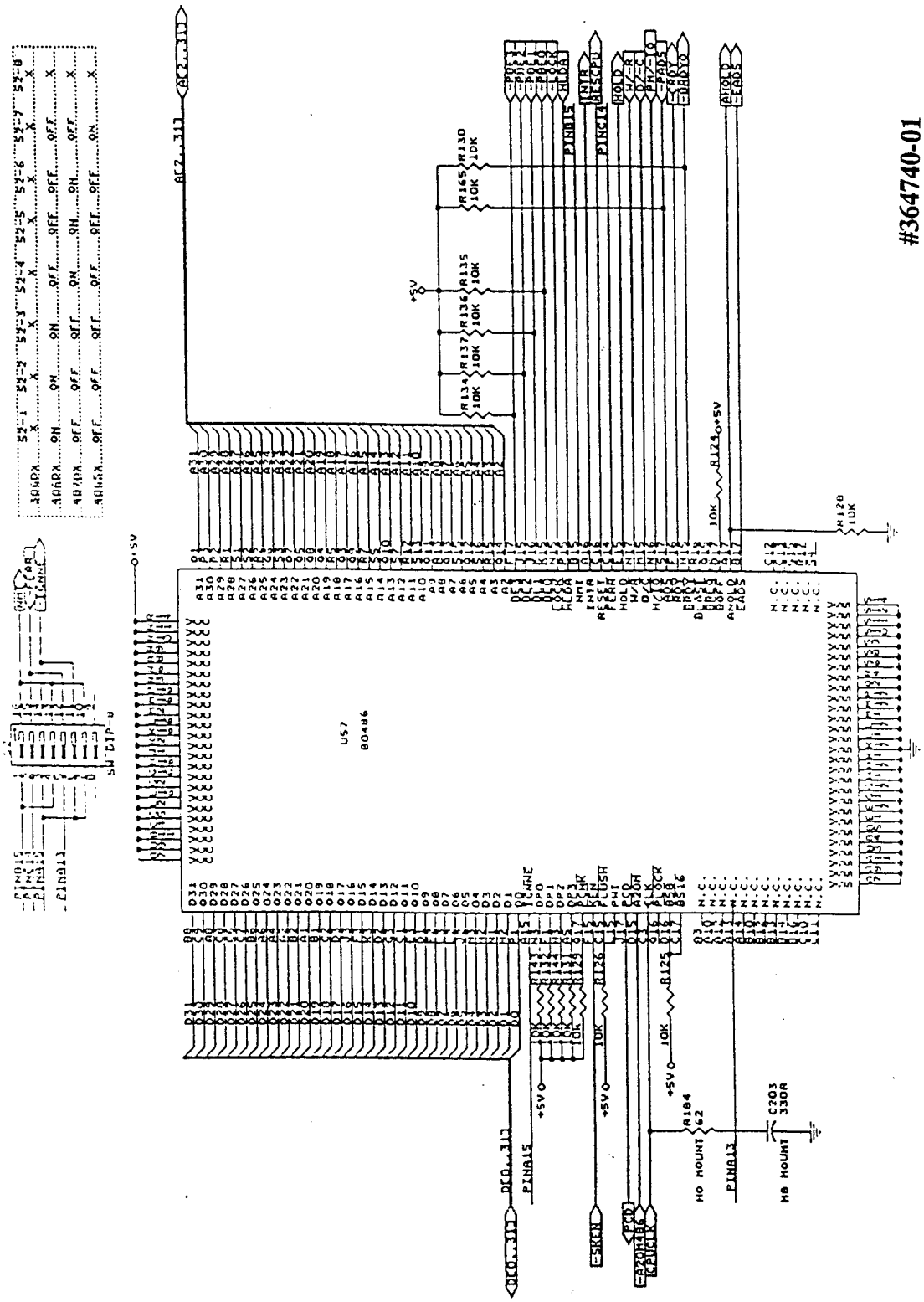

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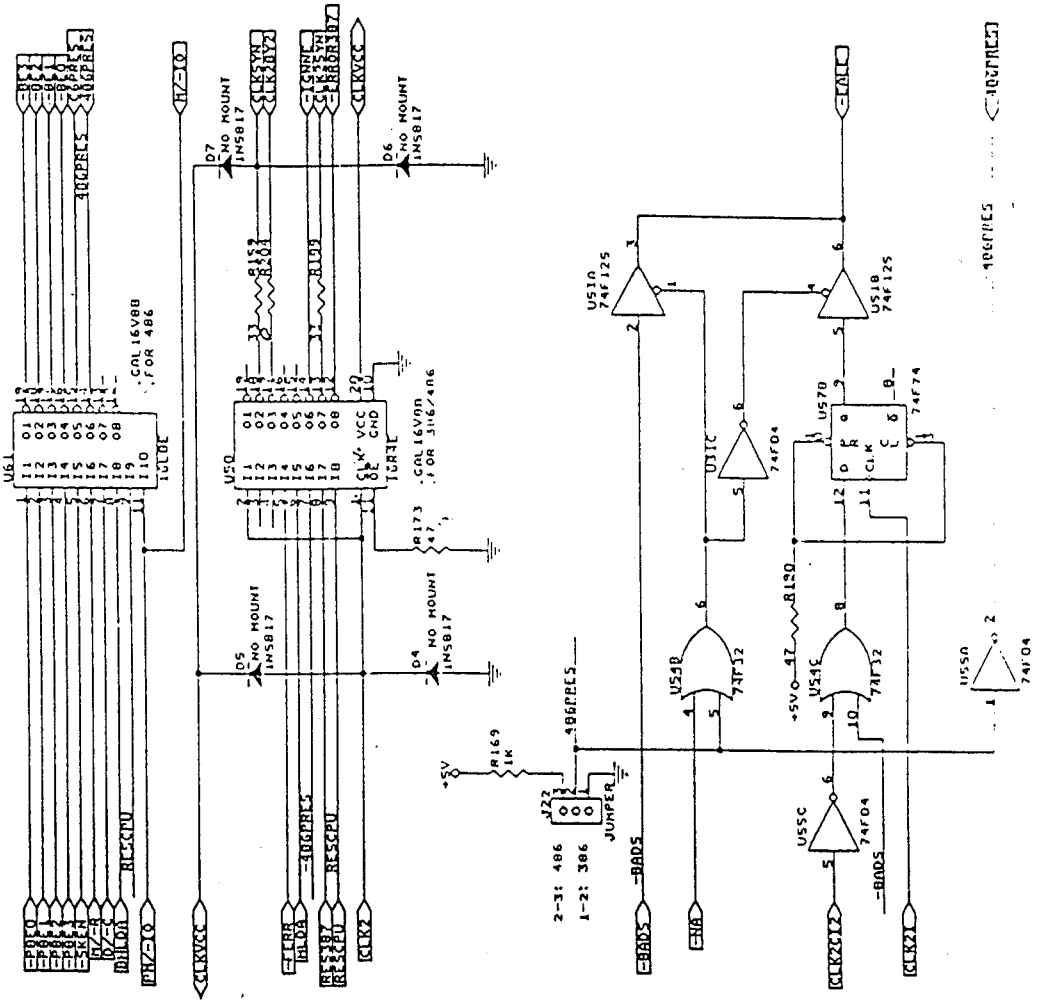
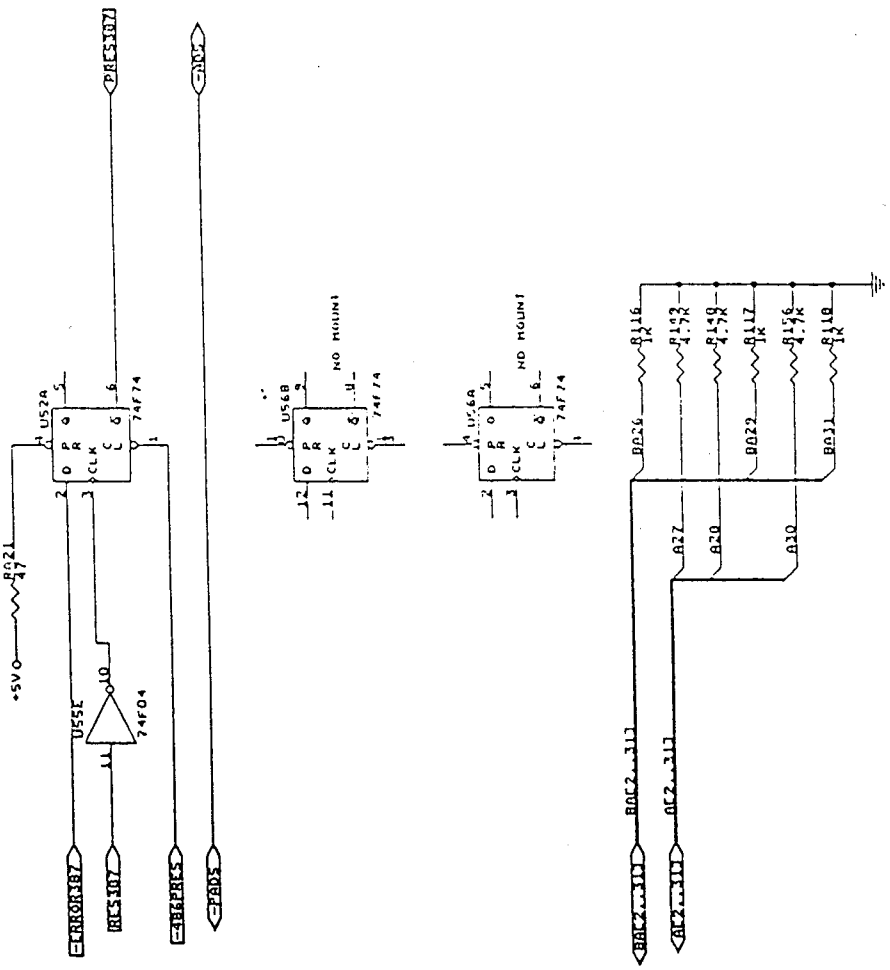
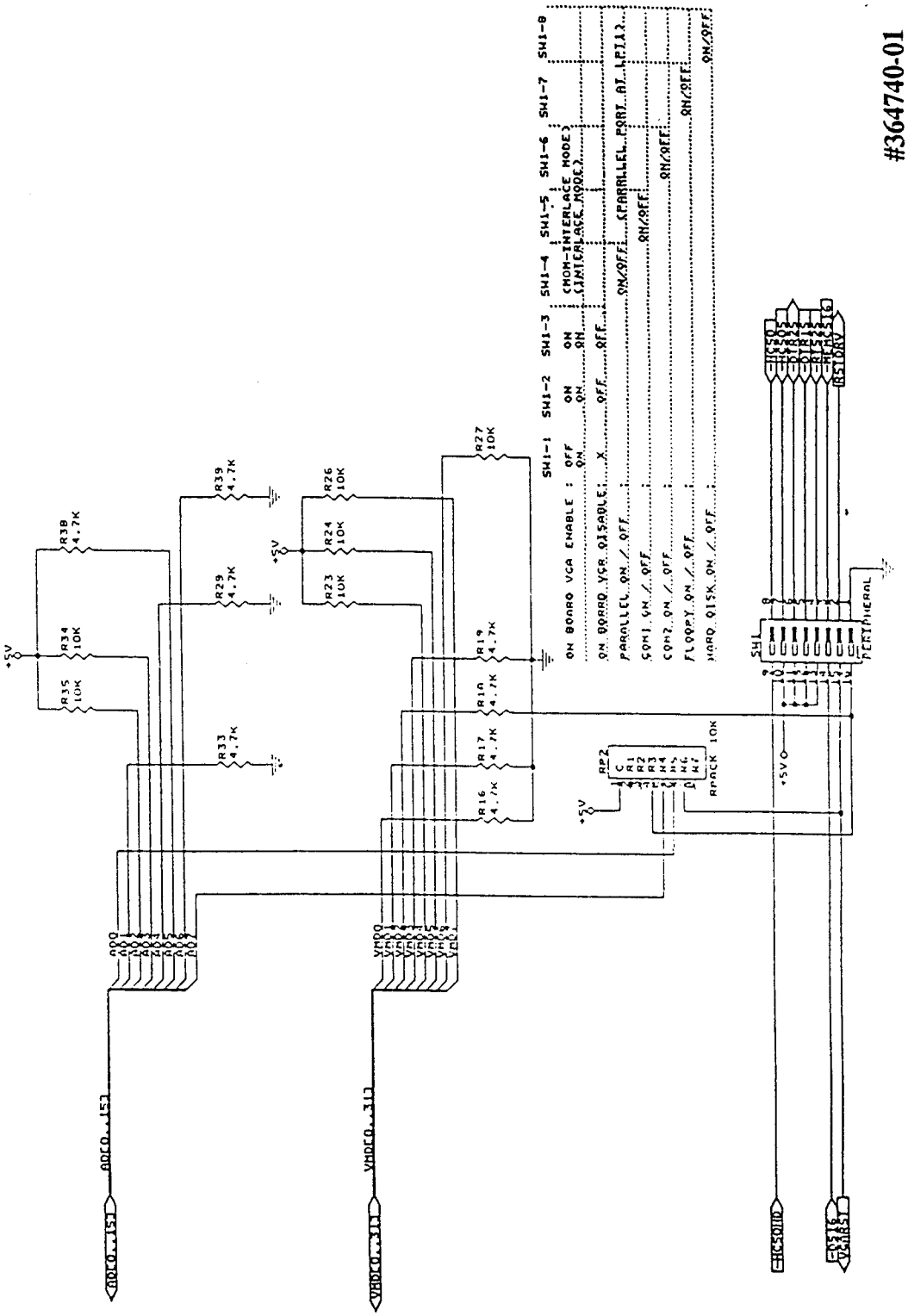



+5V0
R621
47
U52A
74F74
U55E
74F04
U56B
74F74
NO MOUNT
U56A
74F74
NO MOUNT
R116
1K
R193
4.75K
R158
4.75K
R117
1K
R156
4.75K
R119
1K
B026
B022
B031
B27
B20
B30
BAD2..31
BD2..31
-ERROR387
-RES387
-486PARS
PRES387
-NMI
PADS



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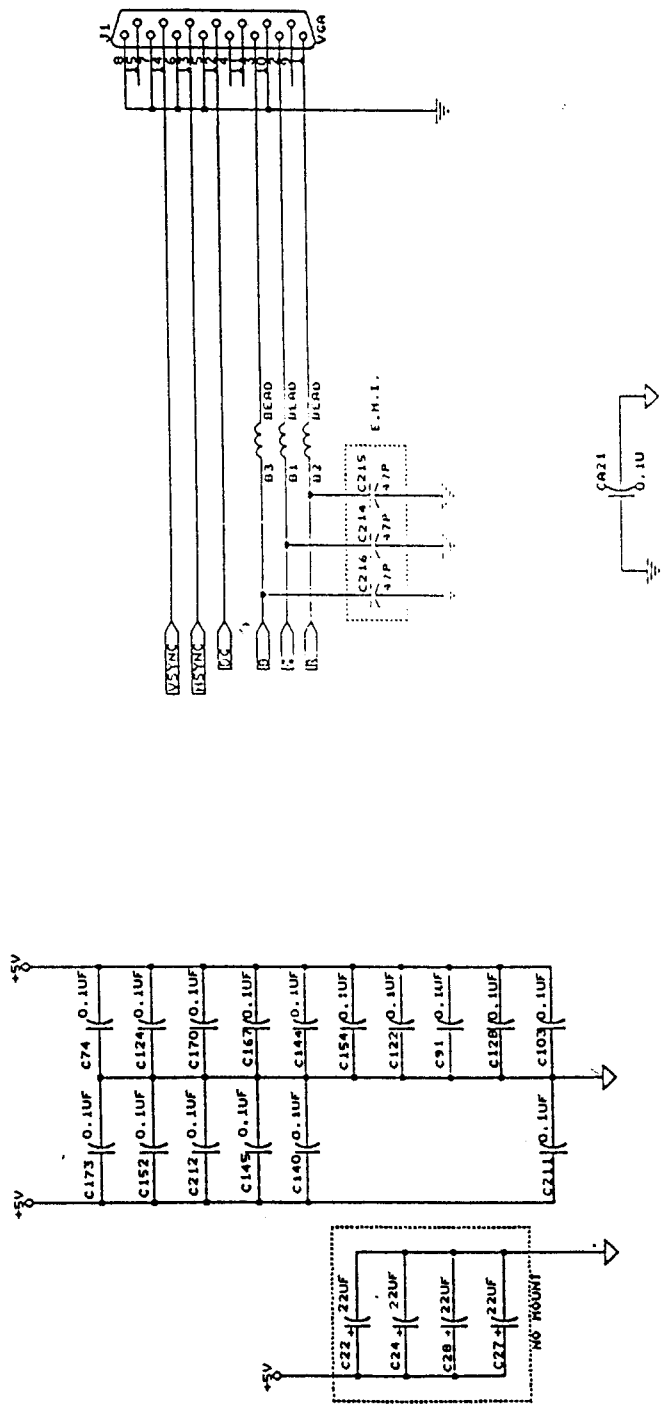
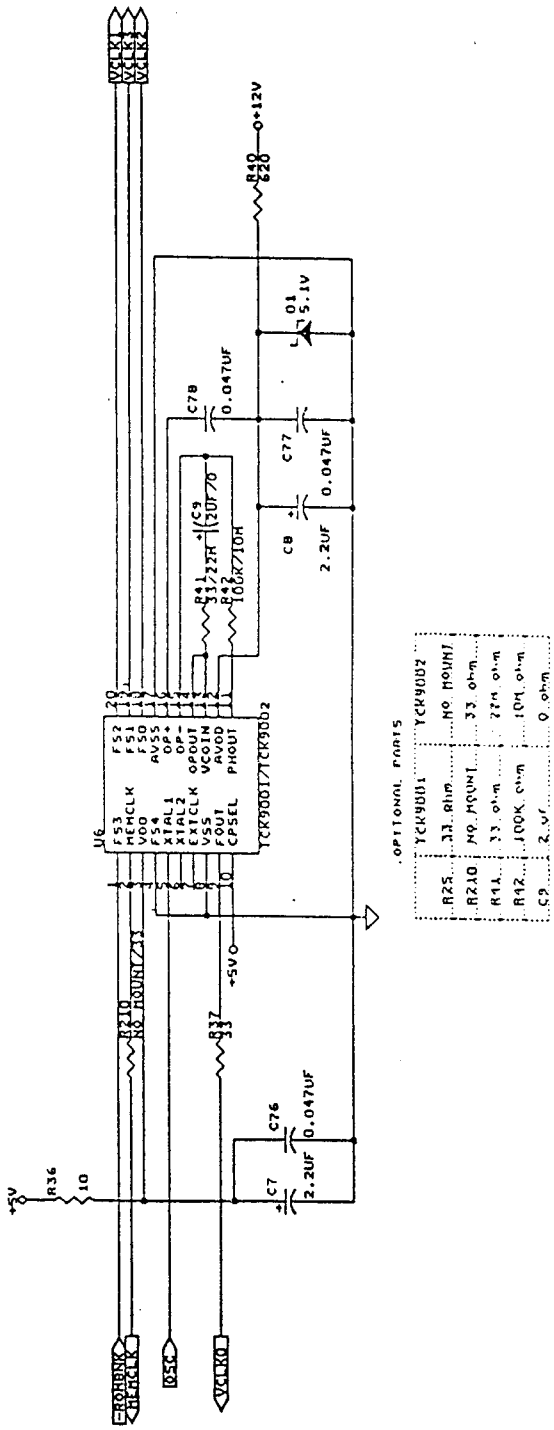
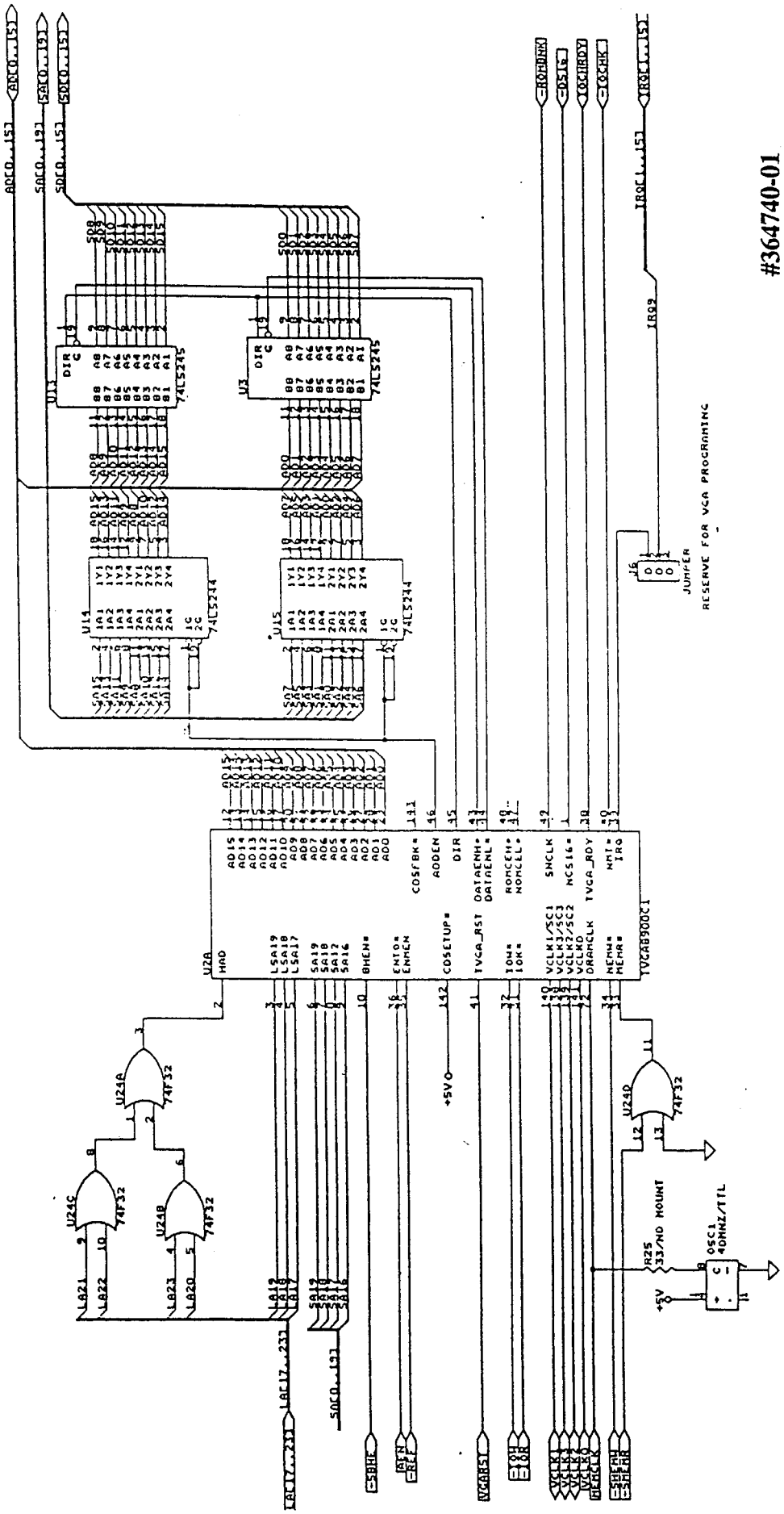
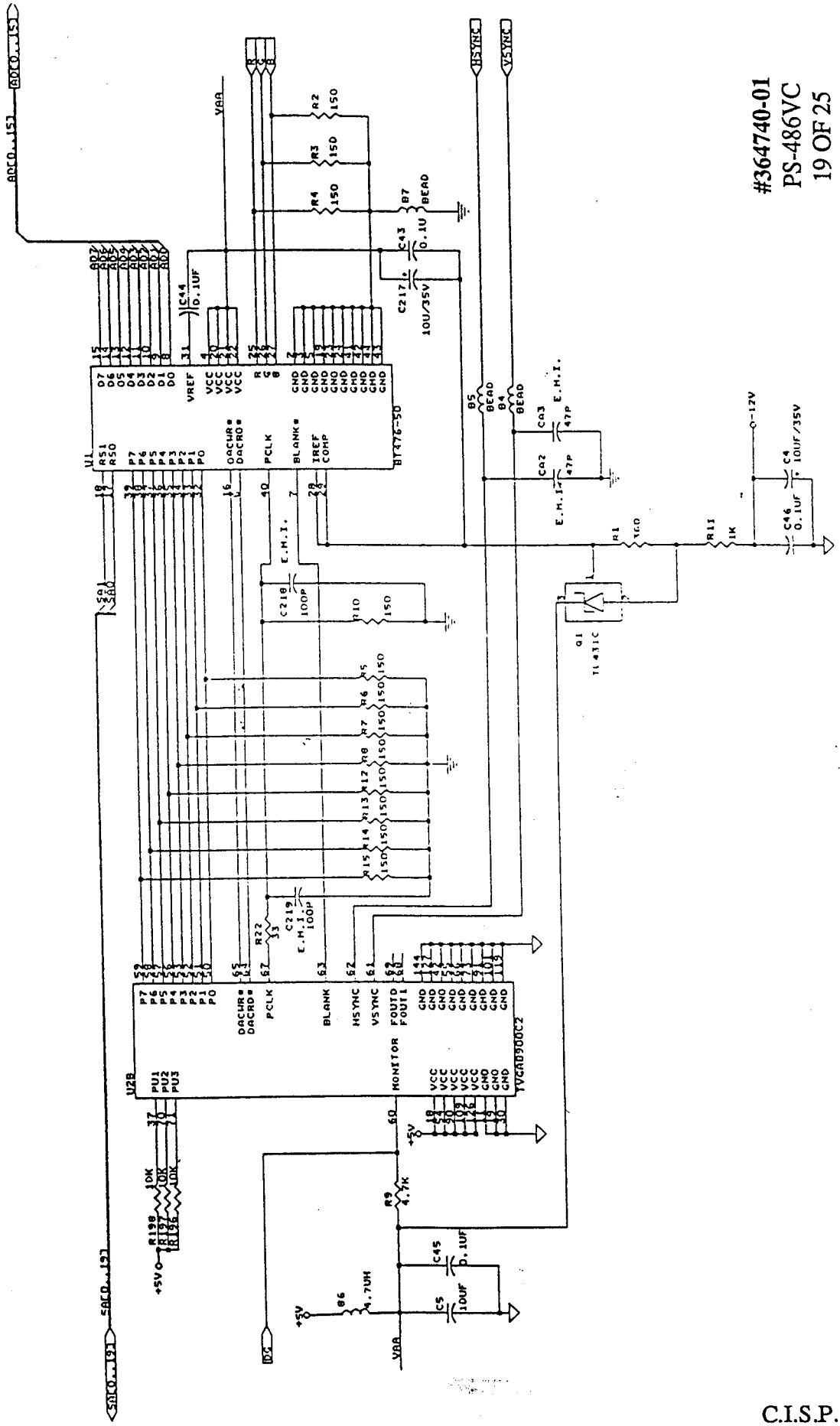

J1
VGA
VSYNC
HSYNC
DC
B3
B1
B2
BEAD
BEAD
BEAD
E.M.I.
C215
C214
C216
47P
47P
47P
C221
0.1U
+5V
C74
C124
C170
C167
C144
C154
C122
C91
C128
C103
C173
C152
C212
C145
C140
C211
0.1UF
C22
C24
C28
C27
22UF
NO MOUNT


VCLK4
VCLK3
VCLK2
VCLK1
R49
820
0-12V
D1
5.1V
C78
0.047UF
C77
0.047UF
C8
2.2UF
C9
120PF
R31
33
R32
100K/10H
U6
YCK9001/YCK9002
FS3
MEMCLK
VDD
FS4
XTAL1
XTAL2
EXTCLK
VSS
FOUT
CPSEL
FS2
FS1
FS0
AVSS
OP+
OP-
OPOUT
VCOIN
AVDD
PHOUT
20
10
R210
NO MOUNT/33
R37
33
+5V
C76
0.047UF
C7
2.2UF
+5V
R36
10
FROMBNK
REFCLK
OSC
VCLKO
OPTIONAL PARTS
YCK9001
YCK9002
R25
33 ohm
NO MOUNT
R210
NO MOUNT
33 ohm
R11
33 ohm
27K ohm
R12
100K ohm
10K ohm
C9
2.2F
0 ohm


U13
74LCS245
U3
74LCS245
U14
74LCS244
U15
74LCS244
U28
TVGA8900CI
U24A
74F32
U24B
74F32
U24C
74F32
U24D
74F32
J6
JUMPER
RESERVE FOR VGA PROGRAMING
R25
33/NO MOUNT
OSC1
40MHZ/TTL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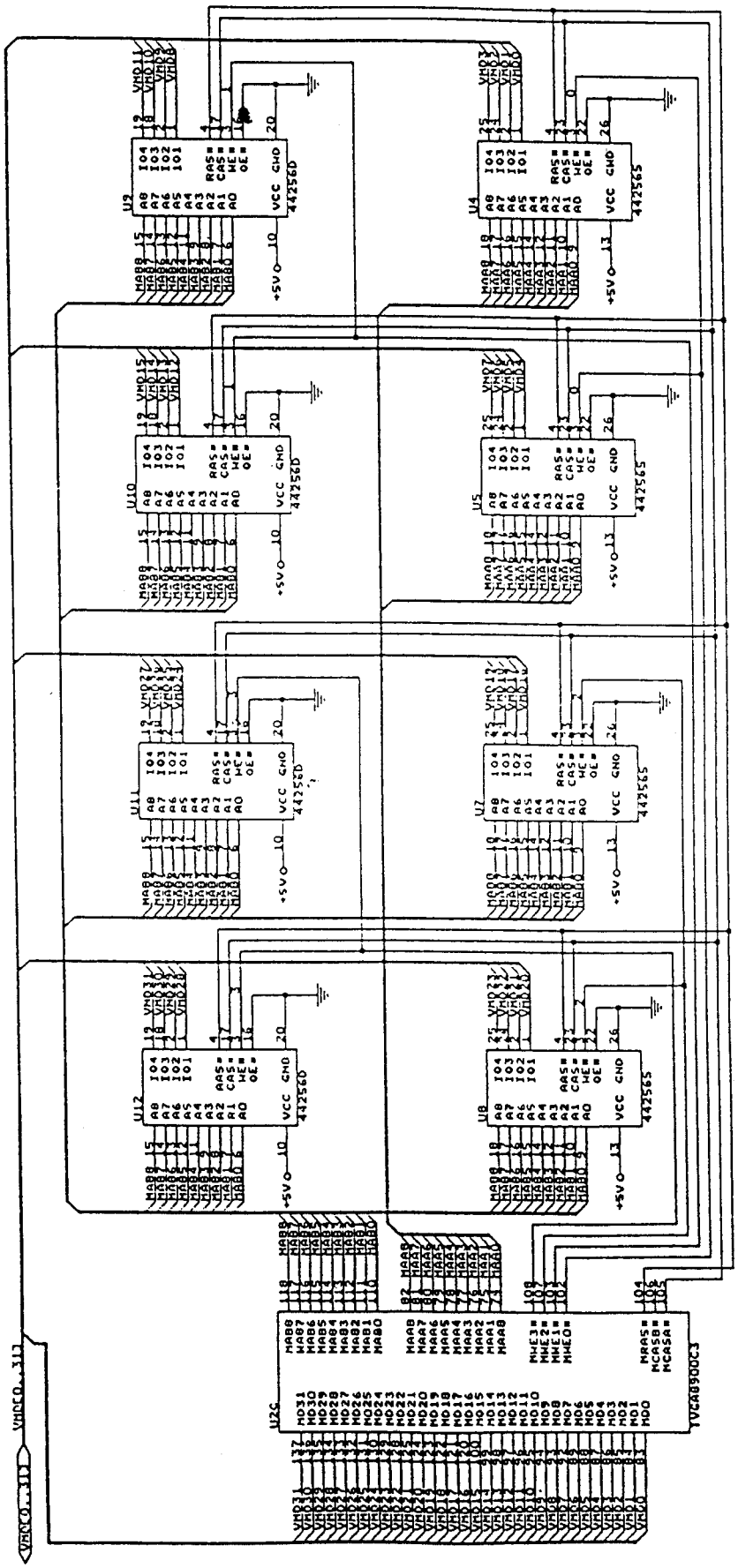

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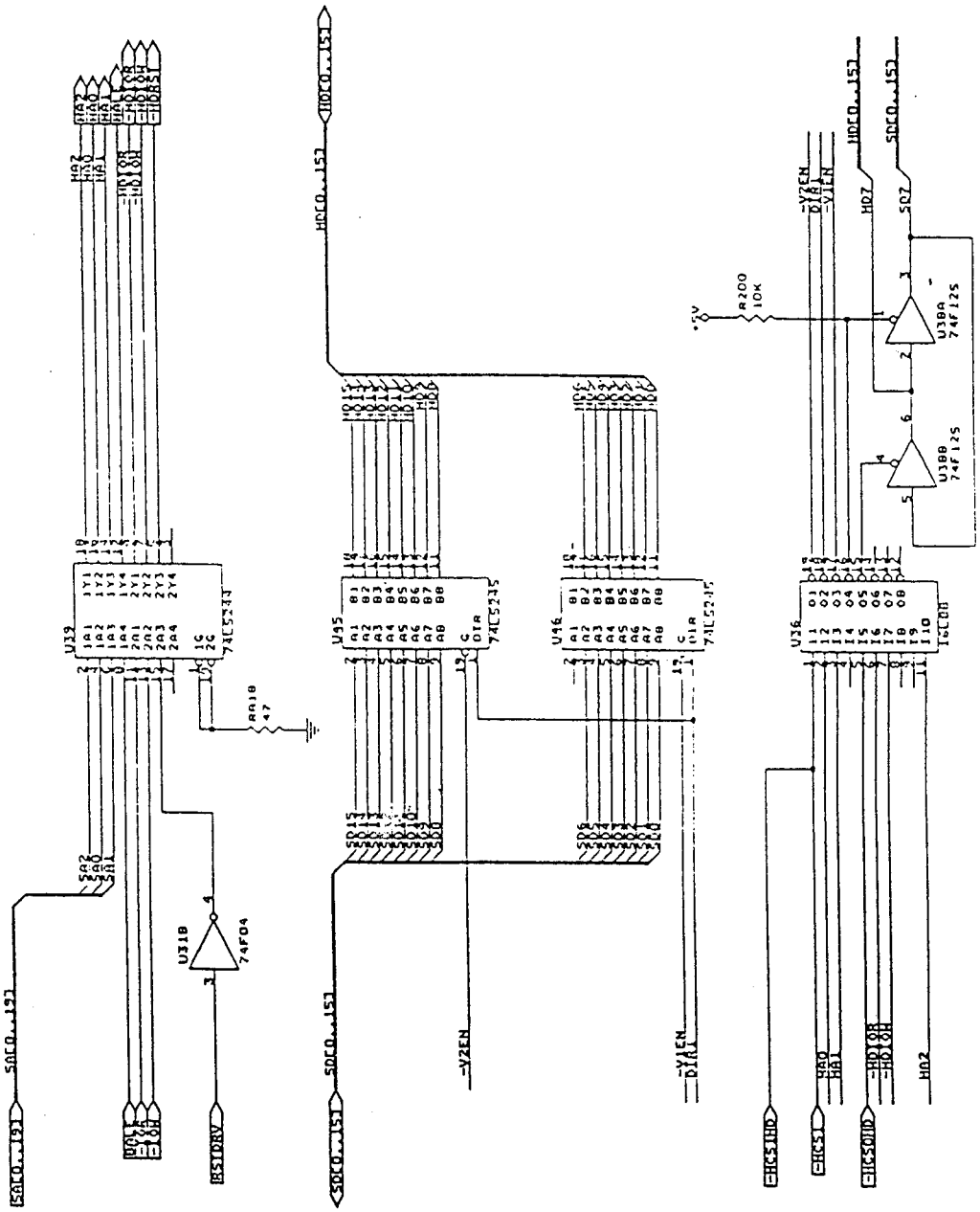

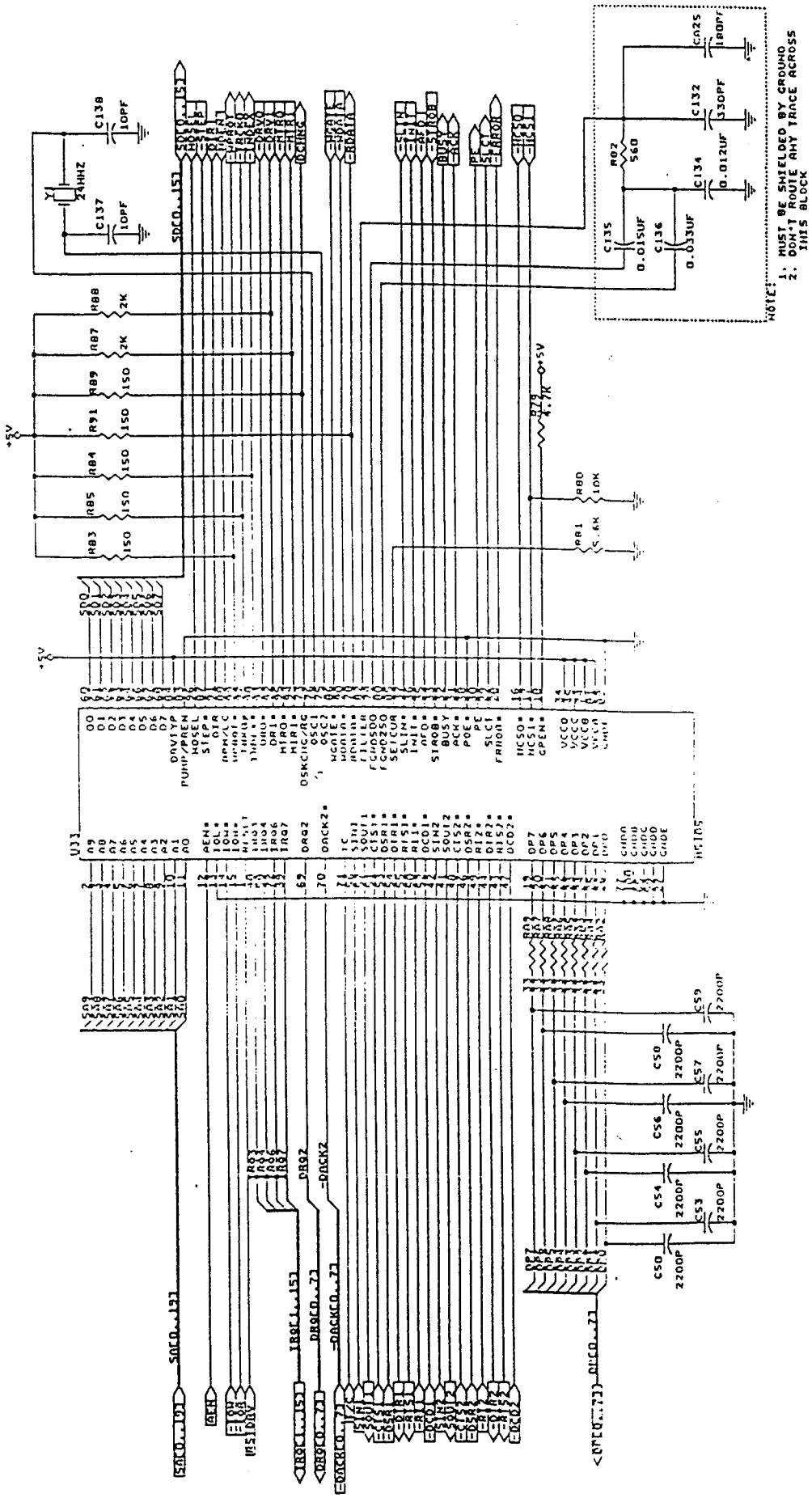

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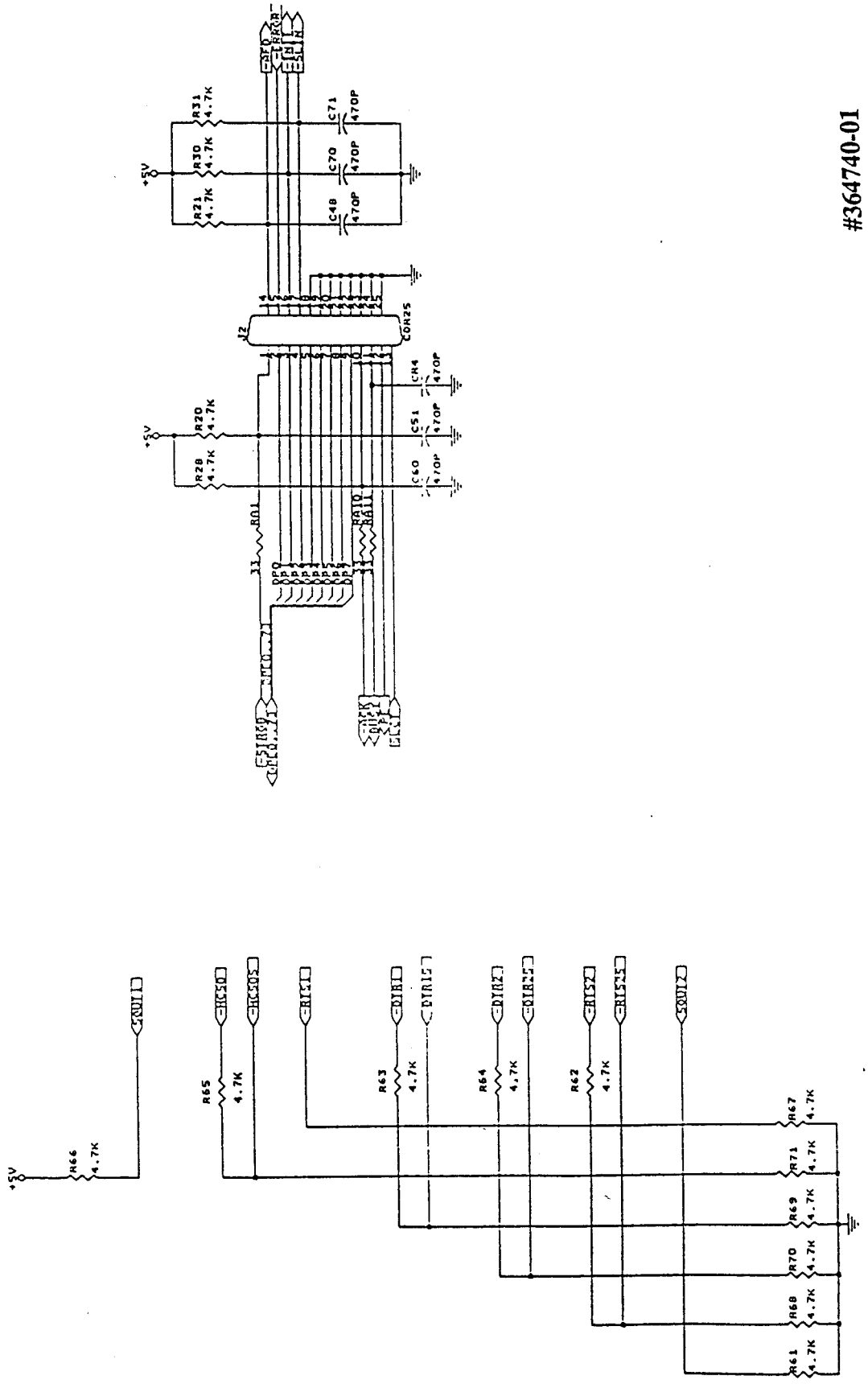

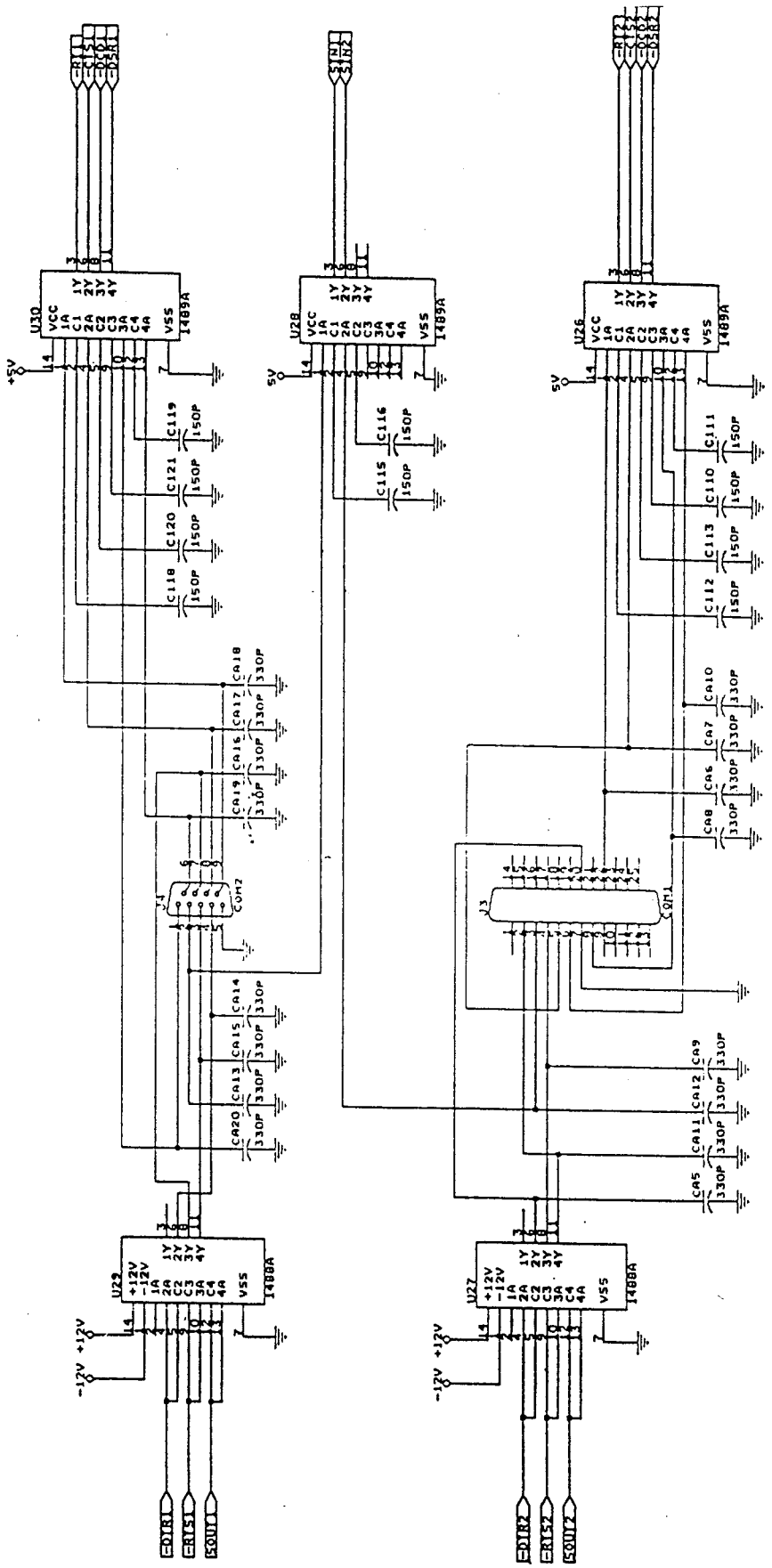

#364740-01
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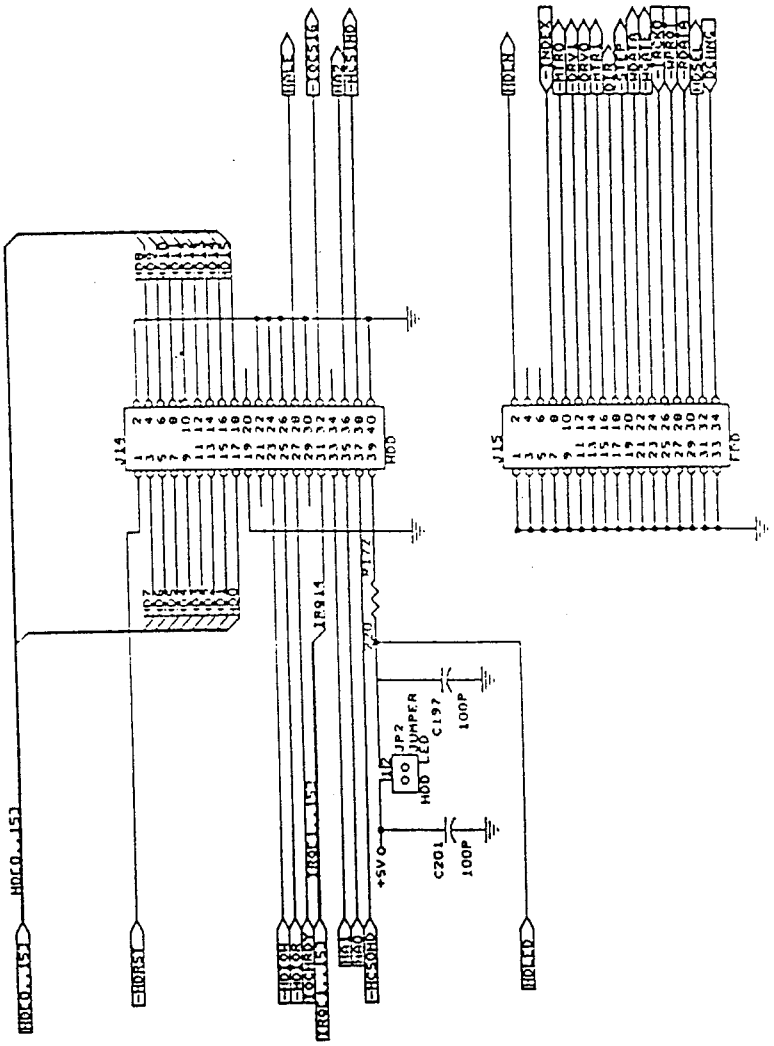
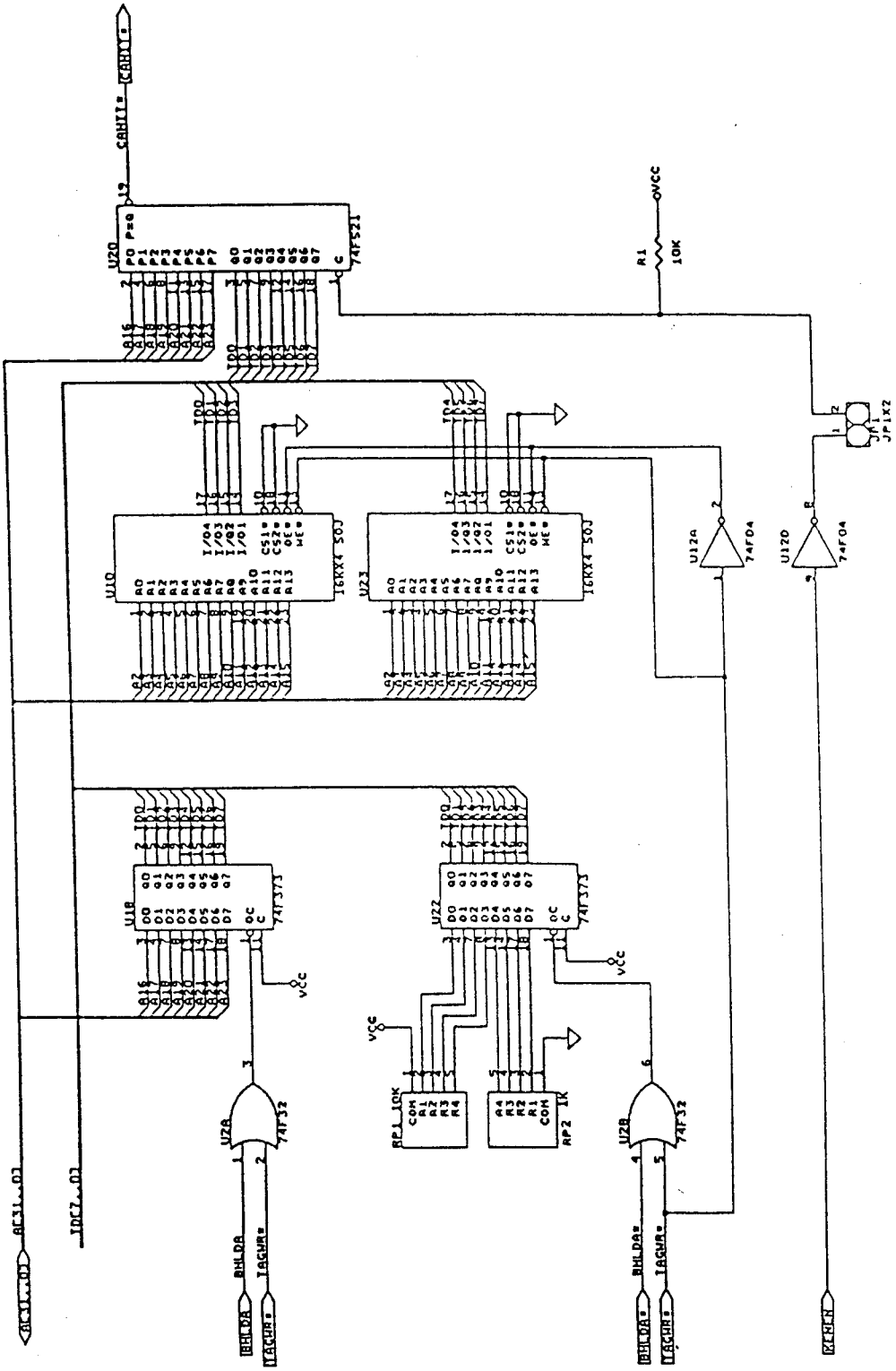


#364741-01
386DC
1 OF 6



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386DC
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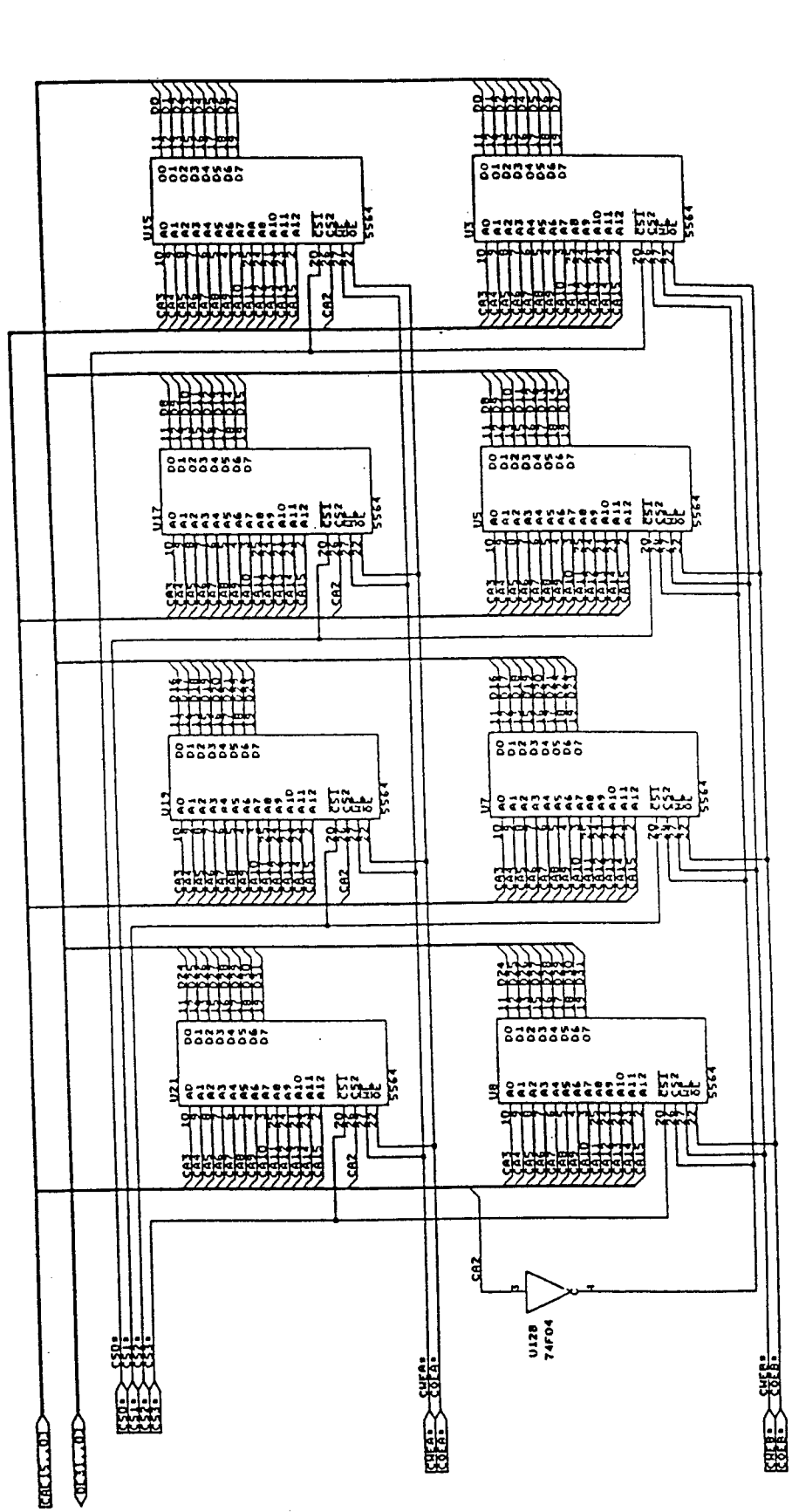

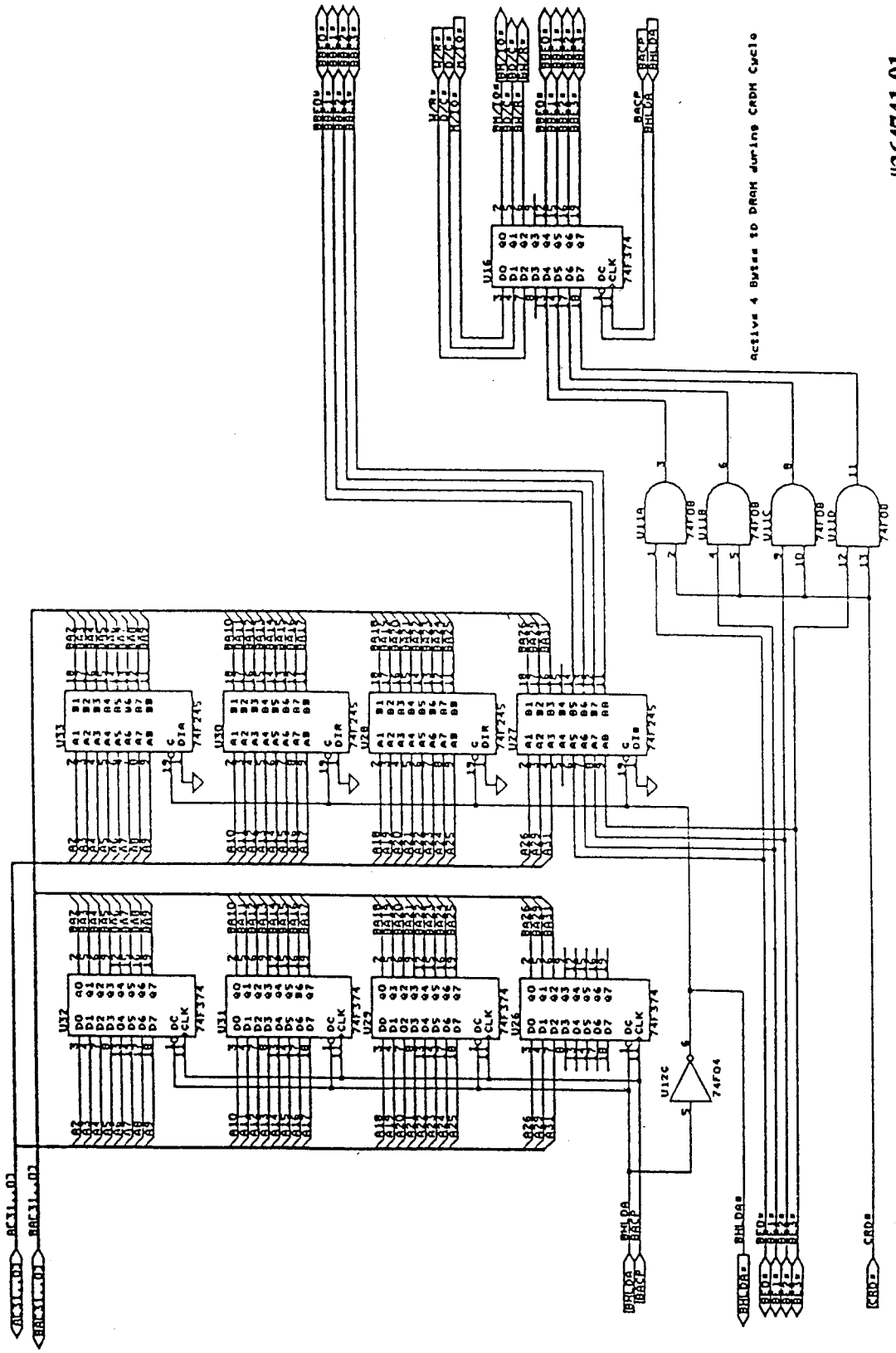

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386DC
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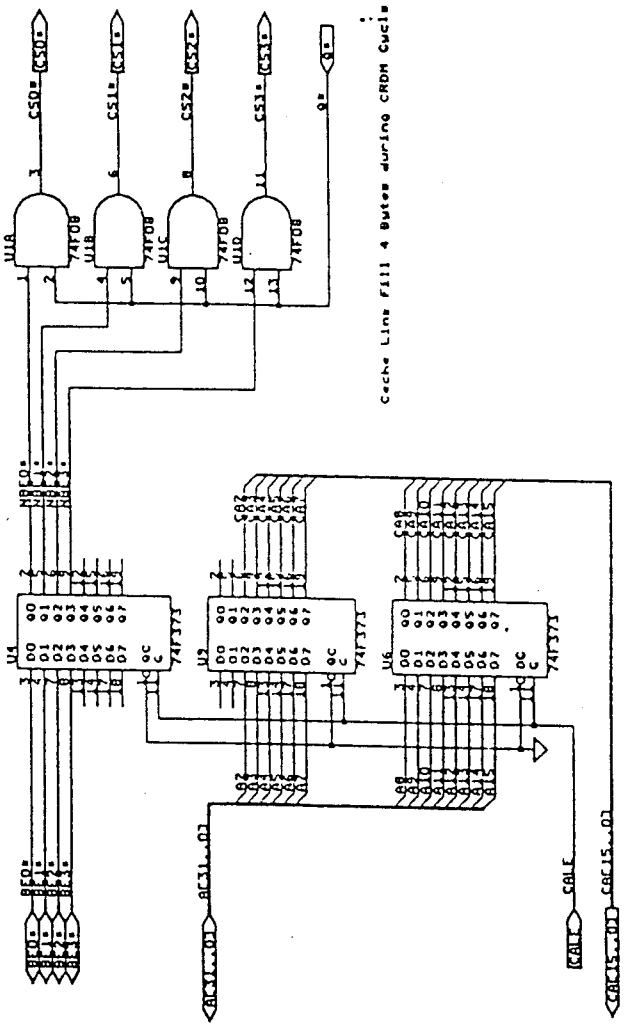
Cache Line Fill 4 Bytes during CRDM Cycle
CS0*
CS1*
CS2*
CS3*
Q*
74F08
74F373
CALF
CAC15..02
AC31..02

#364741-01
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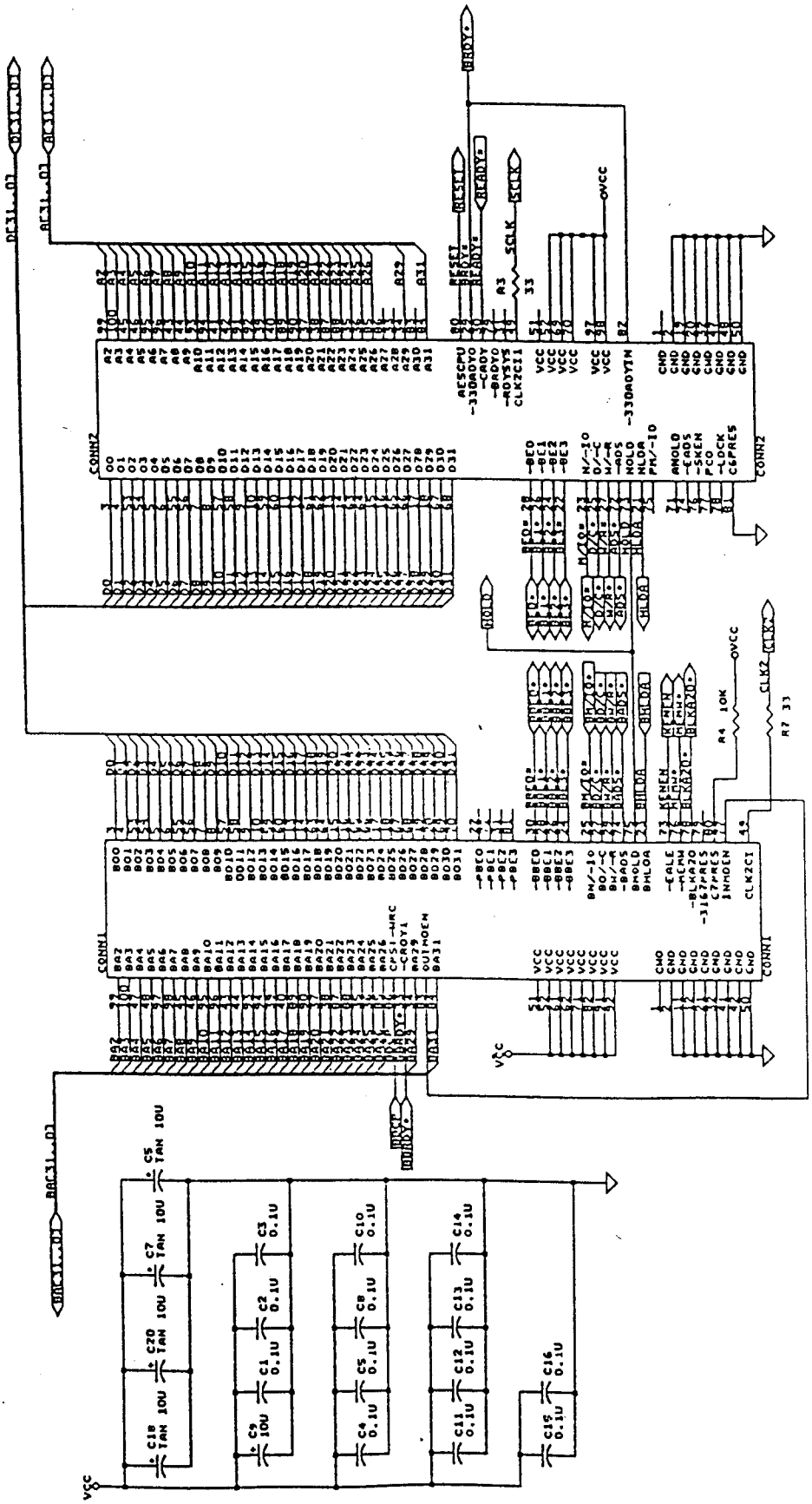

#364741-01
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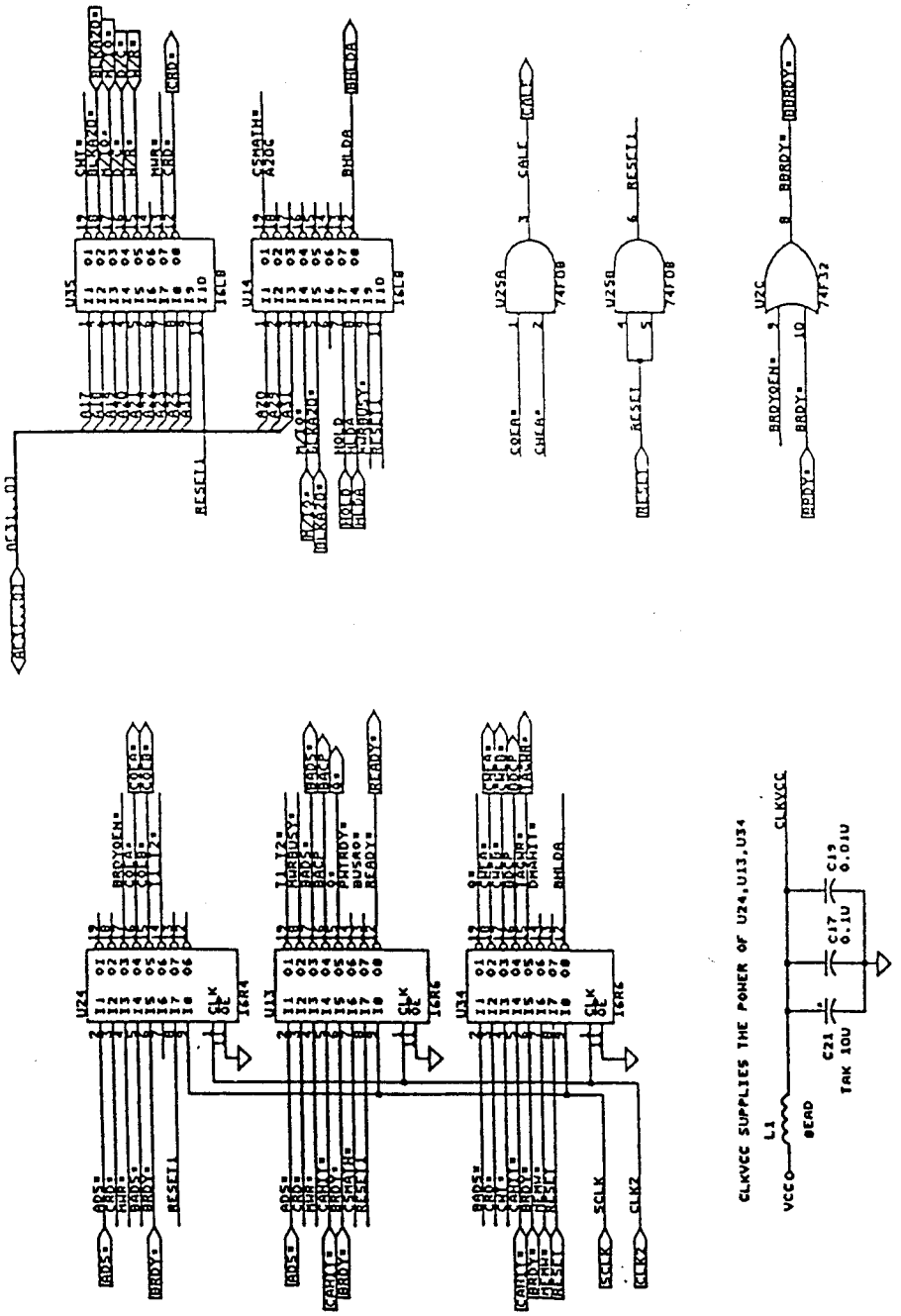

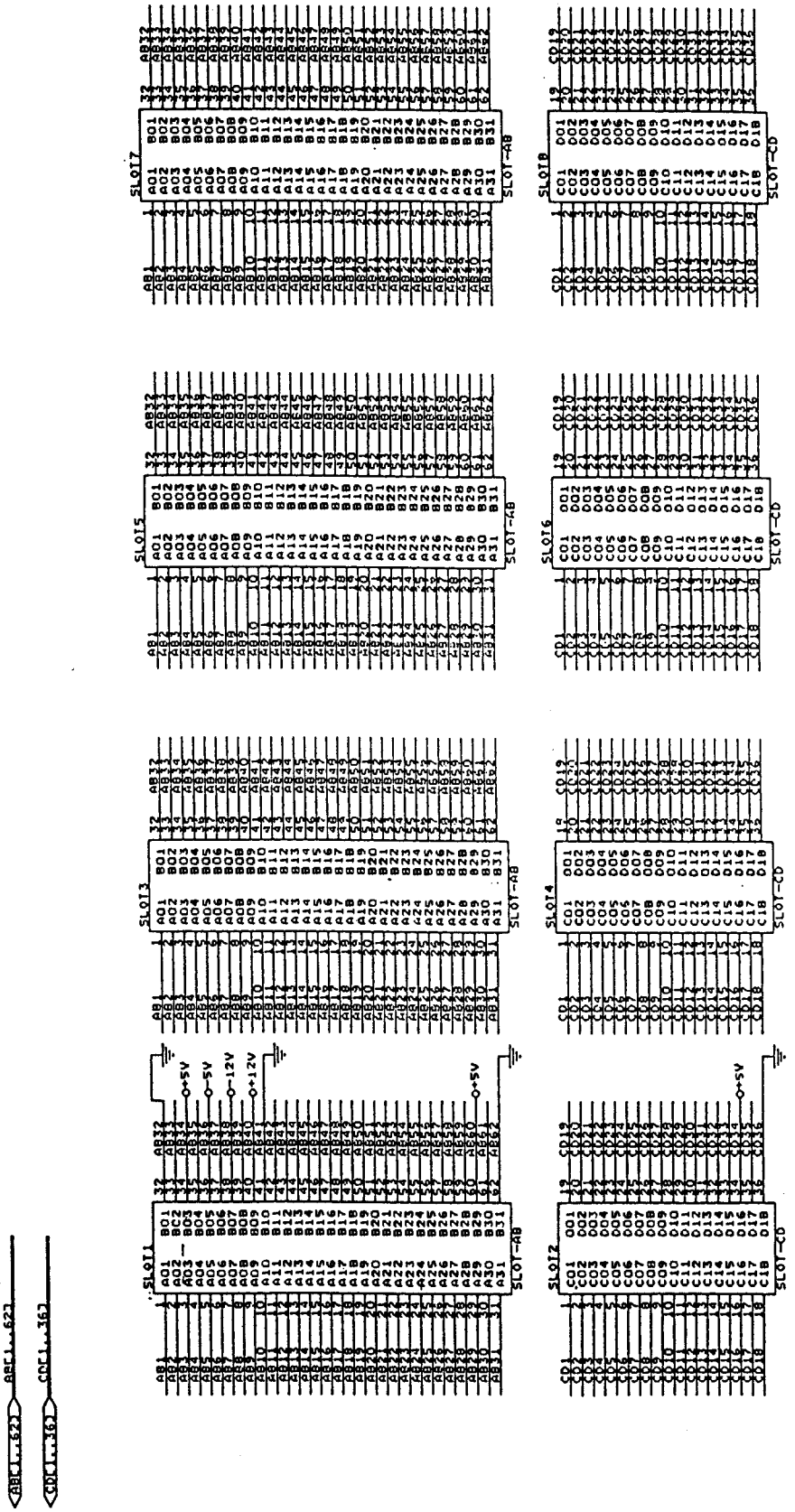

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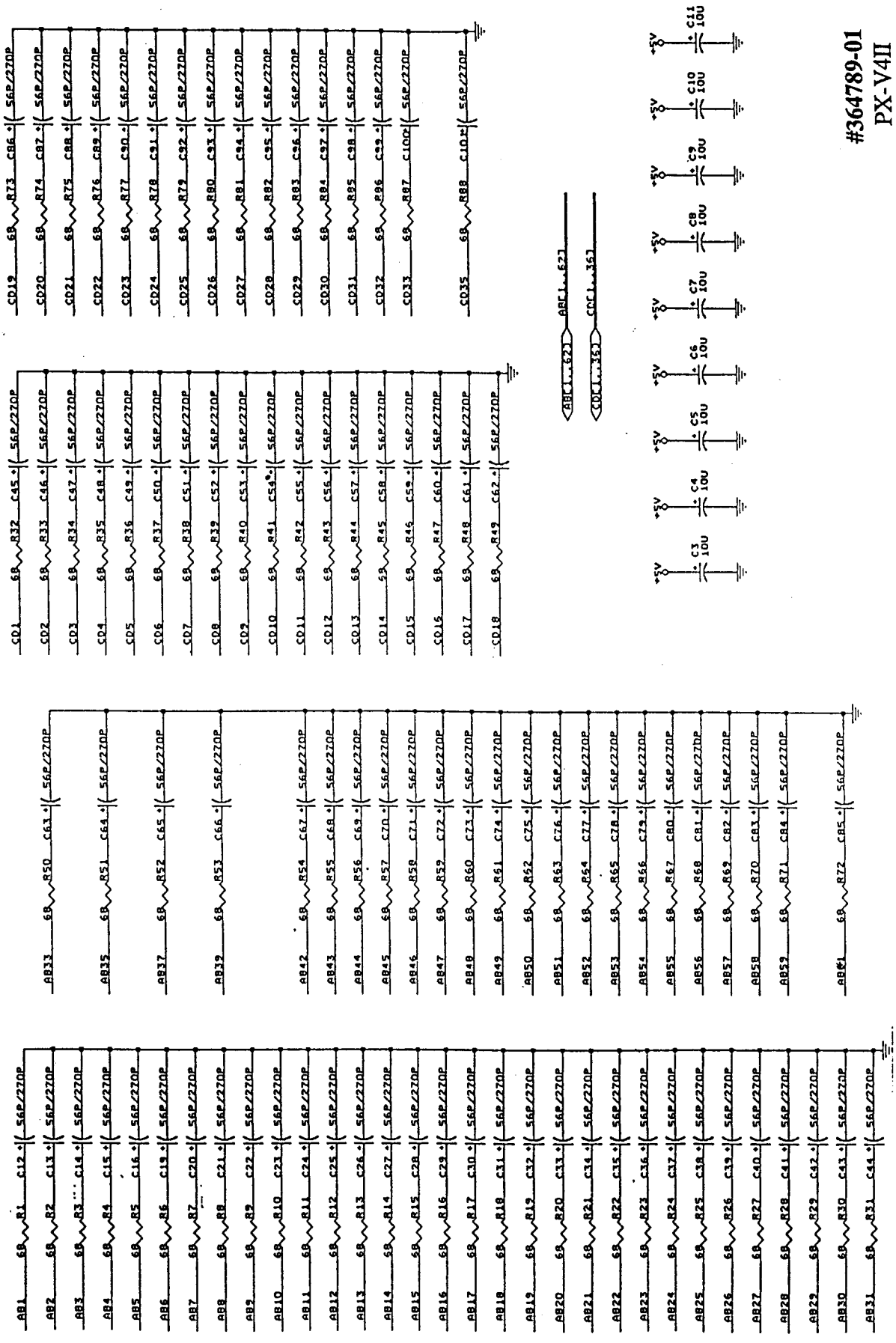
PX-V4II
1 OF 2



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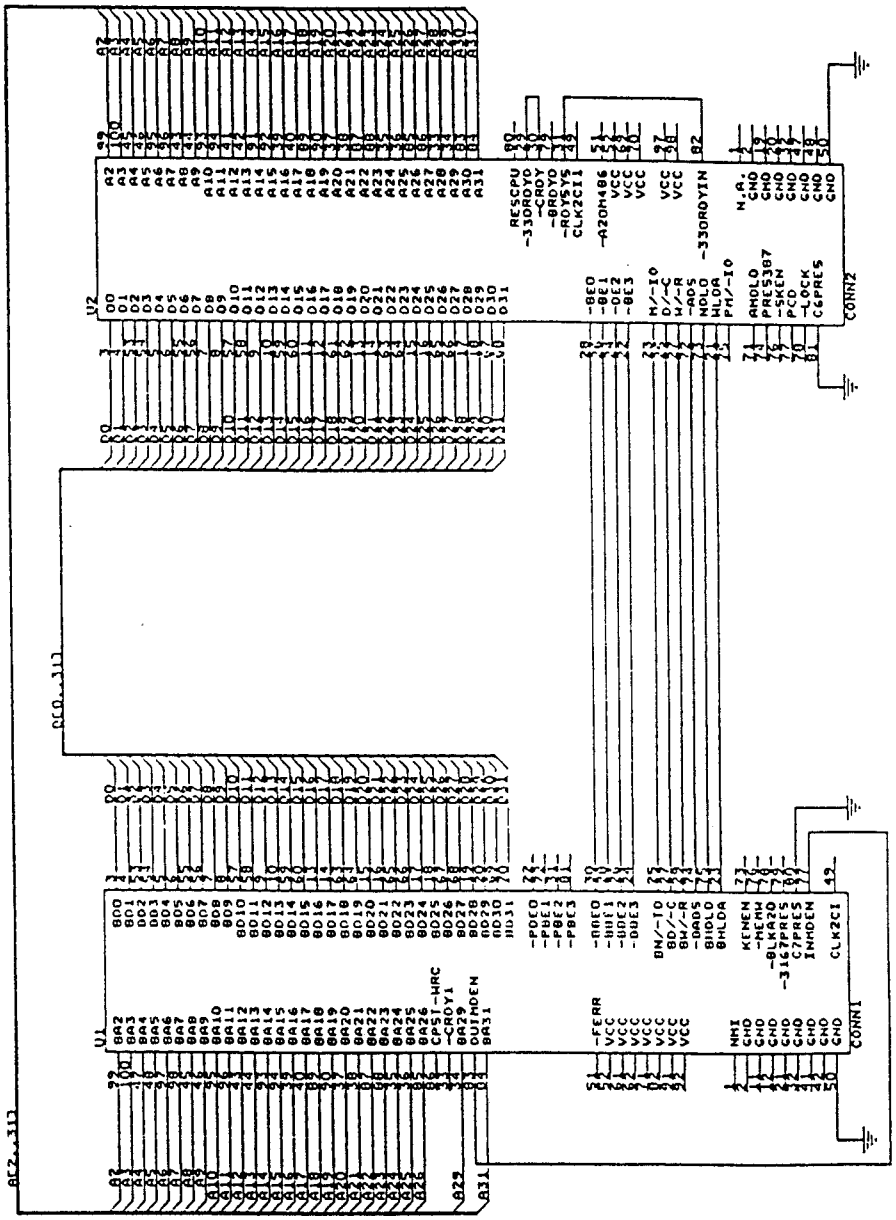
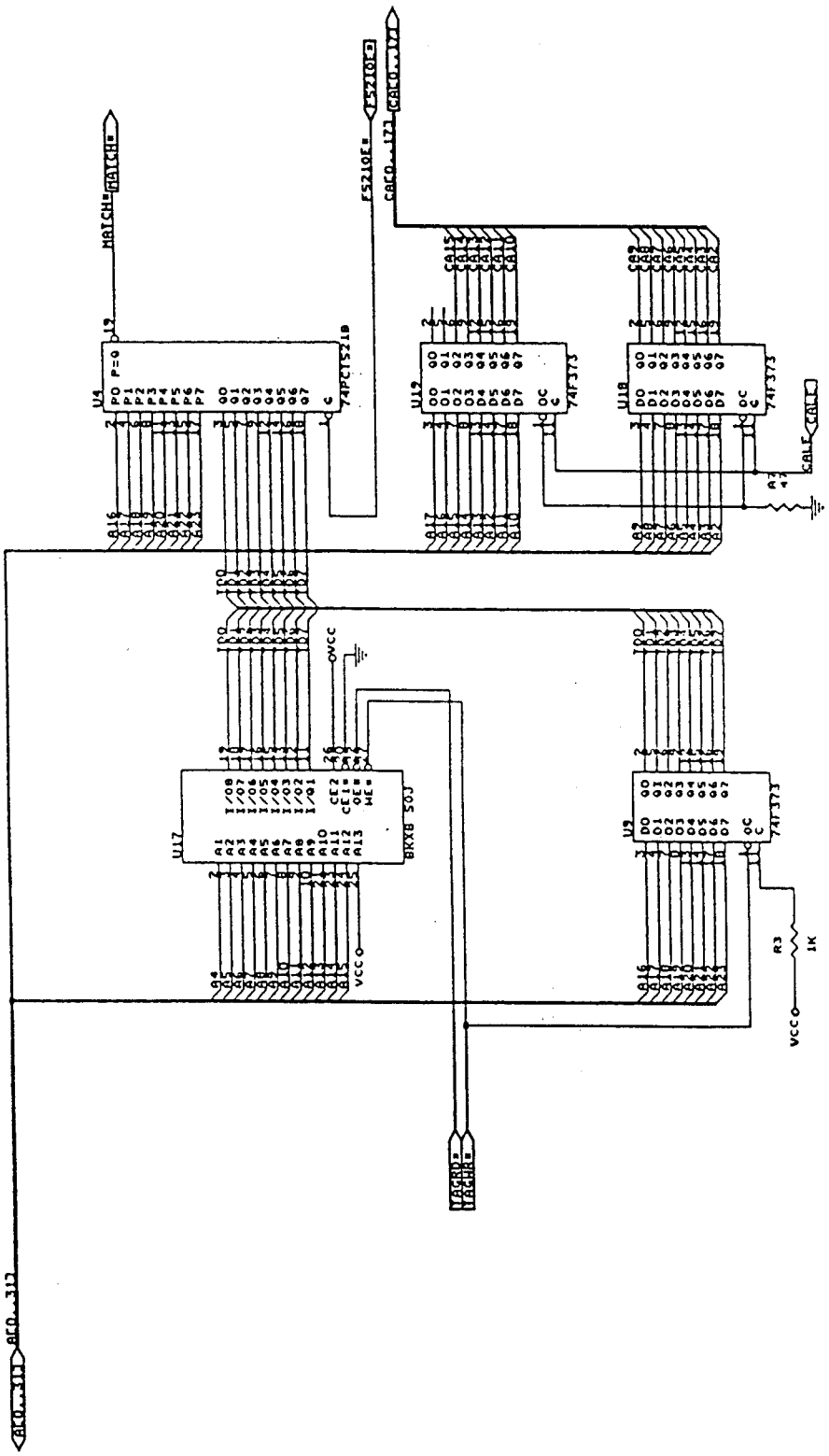
PX-V4II
2 OF 2

#364743-01
486DC
1 OF 4



#364743-01
486DC
2 OF 4



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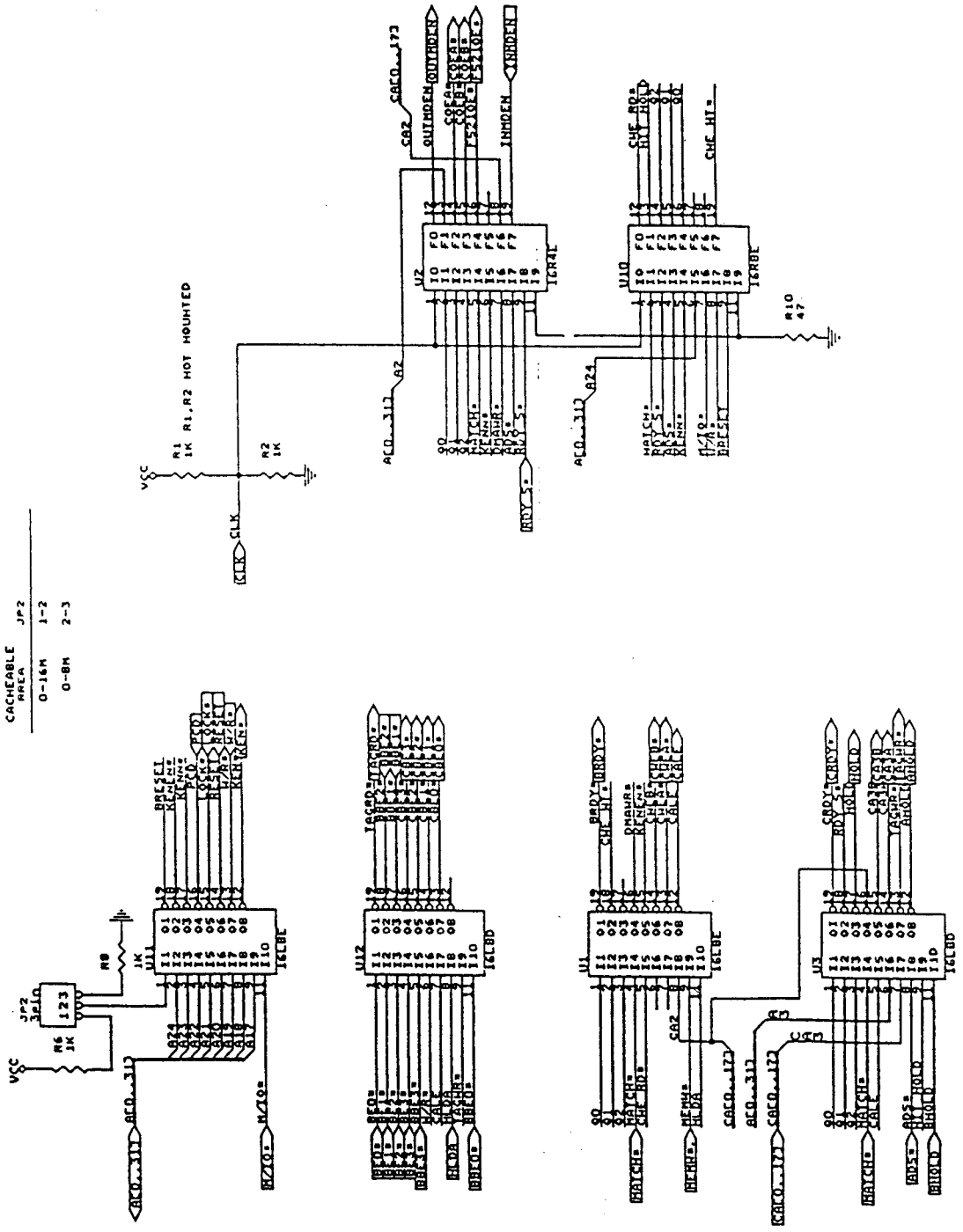
486DC
3 OF 4



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486DC
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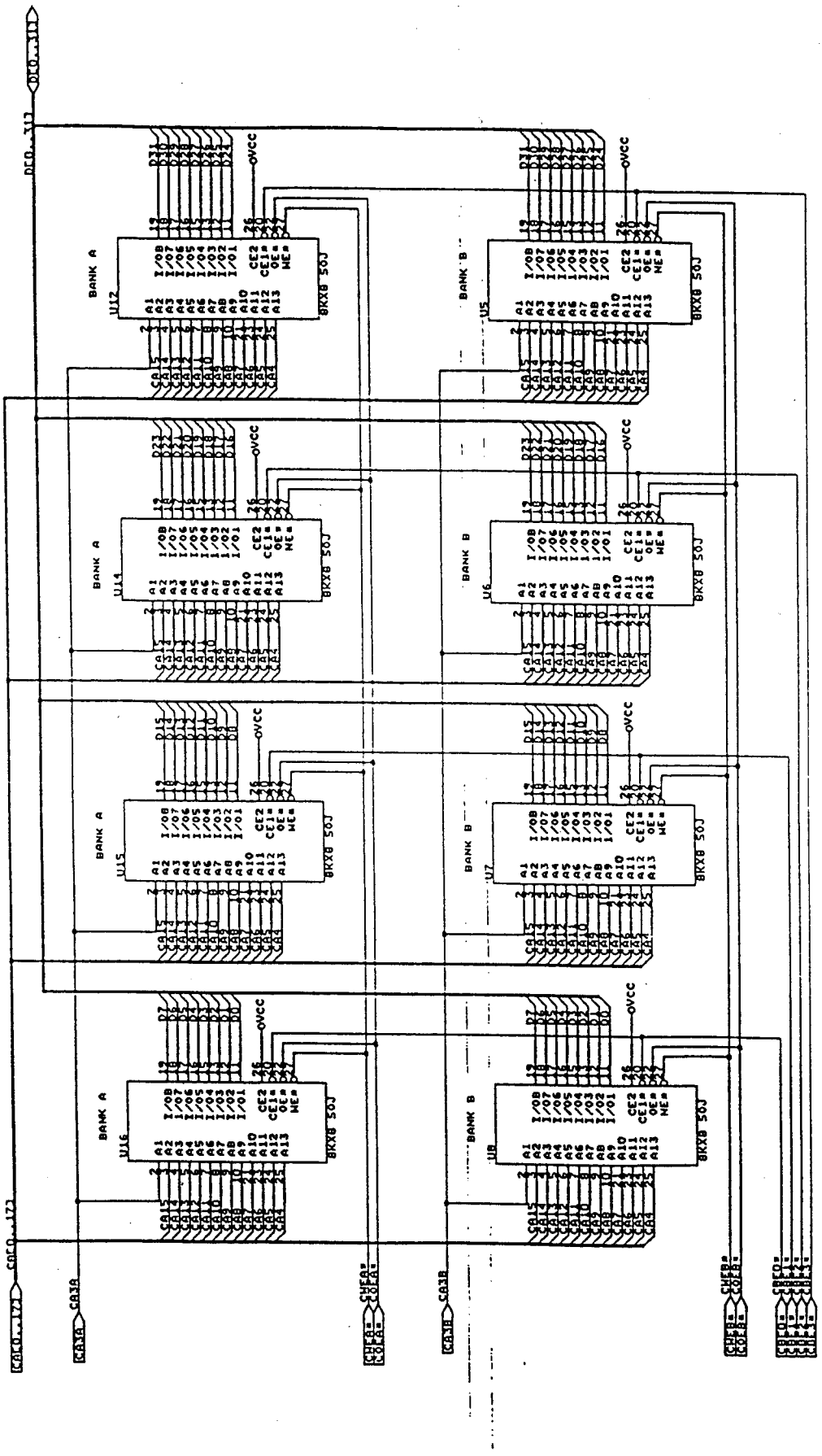
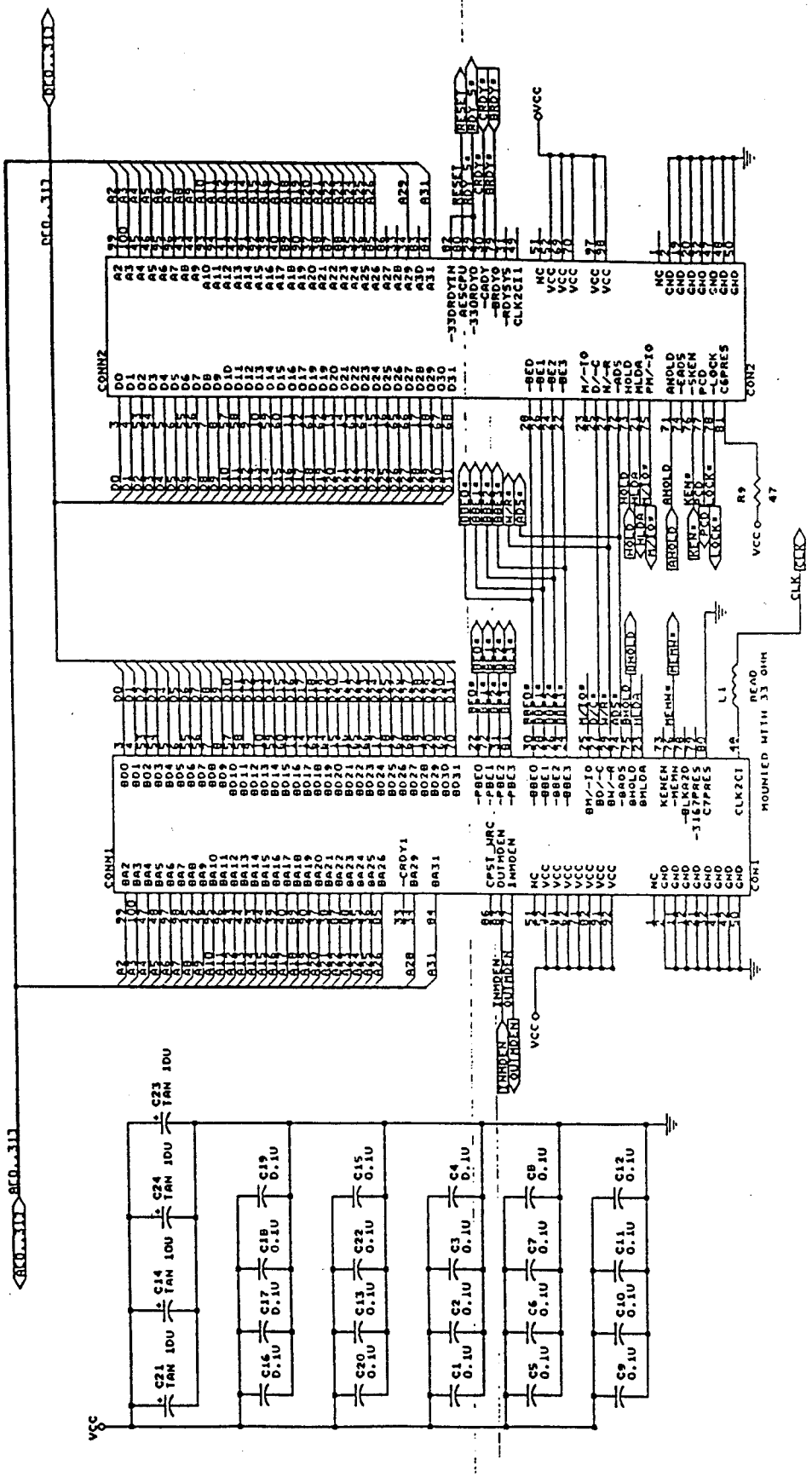


#364742-01
486DB
1 OF 1



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